LAMONT-DOHERTY GEOLOGICAL OBSERVATORY
OF COLUMBIA UNIVERSITY

PALISADES, NEW YORK

NEPHELOMETER MEASUREMENTS AND BOTTOM PHOTOGRAPHS FROM CONRAD CRUISE 16

by
Lawrence Sullivan
Edward Thorndike
Stephen Eittreim

May 1975

Technical Report No. CU-11-75
ONR Contract N00014-67-A-0108-0004

and

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National Science Foundation Grant GA-41657

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TABLE OF CONTENTS

ILLUSTRATIONS

INTRODUCTION

This report gives the results of nephelometer measurements and bottom photographs taken on ROBERT D. CONRAD Cruise 16, which began at St George, Bermuda, on 10 August 1972 and ended in Piermont, New York, on 12 September 1973. During this cruise measurements were made in the North and South Atlantic oceans. The principal objectives of these measurements were to study the transport of sediment in the water column and its deposition and erosion at the sediment-water interface. The bottom photograph collection will provide information for geological and biological studies of the ocean floor. It is the aim of this report to present this data in a format which will allow the rapid dissemination of the information to the scientific community.

INSTRUMENTATION

Bottom Camera: The Ewing-Thorndike deep-sea camera used on this cruise is similar to that described by Thorndike (1959). The lens was designed by Hopkins (1961) for use under water in a housing with a plane window. The focal length and relative aperture in air are 35 mm and f/11. The camera axis makes an angle of 18° with that of the frame, which is essentially vertical. The picture size is 38 x 32 mm, giving angular half-fields in water of 21.0° and 18.1°. The camera is approximately 2.1 m off bottom, giving roughly the field shown in Figure 1. Illumination is provided by a 100-joule strobe light located at the lower end of the frame, approximately 0.76 m off bottom. The camera and strobe, together with a magnetic compass, are mounted in a frame which also supports the nephelometer as shown in Figure 1.

The camera is actuated by a magnet which slides up along the outside of its housing when the trigger weight strikes bottom, removing the tension in the trigger line. The interval between photographs is approximately one minute, allowing time for the film to be transported, the capacitors of the strobe system to be recharged, and the ship to drift to a new position. The film, Kodak 2479 RAR, is processed in D19 or D76 developer shortly after exposure.

Nephelometer: The nephelometer and its performance are described by Thorndike (1974). The basic arrangement of the elements is shown in Figure 2. Light from a small bulb powered by 10 rechargeable nickel-cadmium cells passes through a window into the water beyond. The center part of this divergent beam goes through an opal glass diffuser and an attenuator, consisting of three strips of grey filter glass with different optical densities, and then through a window into the camera housing. The outer parts of the beam proceed past the edges of the attenuator and do not enter the camera unless the light is scattered. Thus the camera receives three different intensities of direct light near its center, with regions of scattered light on either side. The optical densities of the attenuator strips have been chosen so that one of the center strips will receive illumination which is approximately equal to that of the scattered light. Two additional traces are recorded, one near each edge of the film. The first gives a record of time and depth. A watch with a blade replacing its second hand interrupts a light beam directed toward the film to supply time marks. Depth is furnished by a 0 - 10,000 psi, bourdon-tube pressure gauge, with a disk containing small holes near its outer edge replacing its pointer, and with its tube open to the sea. The position of the holes is recorded on the film by use of the same light beam that records time. Depth

at intermediate points is obtained from this indication of pressure, using the PDR depth at the bottom for calibration. The second trace receives light from a small bulb in the camera housing which receives power from the same battery that supplies the main nephelometer light. The exposure of this trace responds to changes in light-battery voltage, film transport speed, film sensitivity and development in the same manner as the direct traces but, of course, is unaffected by the properties of the water path. Thus, it can be used to monitor the direct traces. The nephelometer camera employs a Leitz Summicron lens of 35 mm focal length and f/2.0 relative aperture. Unperforated, 35-mm film, Kodak 2479 RAR, is transported at a speed slightly less than 25 mm per minute behind a 4.8 mm slit located in the plane where the attenuator image is formed. The nephelometer is mounted in the same frame as the bottom camera as shown in Figure 1.

Sensitometer: A sensitometer is used to obtain a characteristic curve of optical density versus log-exposure for each nephelometer film. Light from the same source that will be used in the lowering enters one end of a large, light-tight box and falls on a Kodak step tablet having 13 steps, each 15 mm wide and differing in optical density from adjacent strips by 0.2 at the other end of the box for a period of 15 seconds. The nephelometer film is in contact with the step tablet and thus receives 13 exposures each differing from adjacent strips by 0.2 in log-exposure. A sample characteristic curve is shown in Figure 3.

SHIPBOARD OPERATION

The camera-nephelometer unit is normally lowered on the hydrographic wire at a speed of 100 meters per minute. During the time that a point of the film moves from one side of the 4.8 mm slit to the other, the nephelometer has descended a distance of approximately 20 m. Thus, a point on the film gives a measure of light scattering averaged over 20 meters of depth. When the unit strikes bottom, the bottom-camera strobe light flashes and one exposure is made. A sequence of 10 - 20 photographs is taken by successively raising the unit approximately 50 meters and then lowering it to the bottom. The strobe light flash produces a dark band across the nephelometer film which can be useful in determining the point on the film corresponding to the hit, but unfortunately obscures the record in the bottom 20 to 40 m. After bottom photographs have been taken, the equipment is raised at the same speed at which it was lowered. The nephelometer film is processed on shipboard with D19 developer as soon as practicable.

In order to preclude errors from contamination, the equipment is washed between lowerings to remove sediment that has been accumulated from contact with the bottom. Baffles and frame are covered with non-reflecting black felt to minimize errors from reflected light.

REDUCTION OF CAMERA AND NEPHELOMETER DATA

The nephelometer and camera films from each leg are returned to Lamont-Doherty where they are inspected. Prints are made from the camera negatives for each station and a punched card is prepared for each, in order to permit rapid sorting and retrieval of information by computer. The prints of the

photographs are filed for use by interested scientists. This report contains 400 photographs chosen from the 2475 usable frames obtained. Some stations are represented by only a few photographs because bottom type changes little between frames. On stations where bottom type is more variable, a larger number of photographs are included.

The nephelometer films are marked at positions where they are to be photometered, at each 250 m for the upper part of the water column and at each 100 m for the bottom 1,000 m. Additional points of special interest are also photometered. The final data point measured does not represent the bottom, but actually is somewhere between ten and twenty-five meters above bottom. All depths are based on PDR soundings corrected using Mathews Tables.

Photometering is done with a Photovolt Electronic Spot-Photometer, Model 502, combined with a Transmission Densitometer, Model 52, equipped with a film carriage that moves the film transversely past the densitometer slit with a motor-driven cam.

The optical density of the film is read on the photometer and later combined with depth information and recorded on punched cards. Optical density is converted to log-exposure by using a characteristic curve constructed from the sensitometer patches. The upper part of the curve (high exposure end) has a small slope and its shape is somewhat uncertain due to temperature effects. This leads to an uncertainty of $\pm$ 0.1 in the log-exposure in regions of very strong scattering.

For each depth, the log-exposures of the two scattered-light strips are averaged and the log-exposure for one of the direct strips is subtracted from this average to give log E/E_D. If values of

log E/E_D for any station are to be compared with those of other stations, the absorption produced by the attenuator in the direct beam must be the same in all cases or, if not, a correction must be applied to compensate for the change. In order to make this correction, prior to use, the optical densities of the strips of each attenuator are compared with a standard, #1, kept at the Lamont-Doherty laboratory.

ACKNOWLEDGEMENTS

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REFERENCES

Hopkins, R. E. and H. E. Edgerton. Lenses for underwater photography. Deep-Sea Research 8 312-317.

Mathews, D. J. Tables of the velocity of sound in pure water and sea water for use in echo sounding and sound-ranging, H. D. 282, Hydrographic Department, Admiralty, London, 52 pp. 1939.

Thorndike, E. M. (1959) Deep-sea camera of the Lamont Observatory. Deep-Sea Research 5 234-237.

Thorndike, E. M. A deep-sea, photographic nephelometer. Ocean Engineering (In press 1974).

CAMERA NEPHELOMETER UNIT

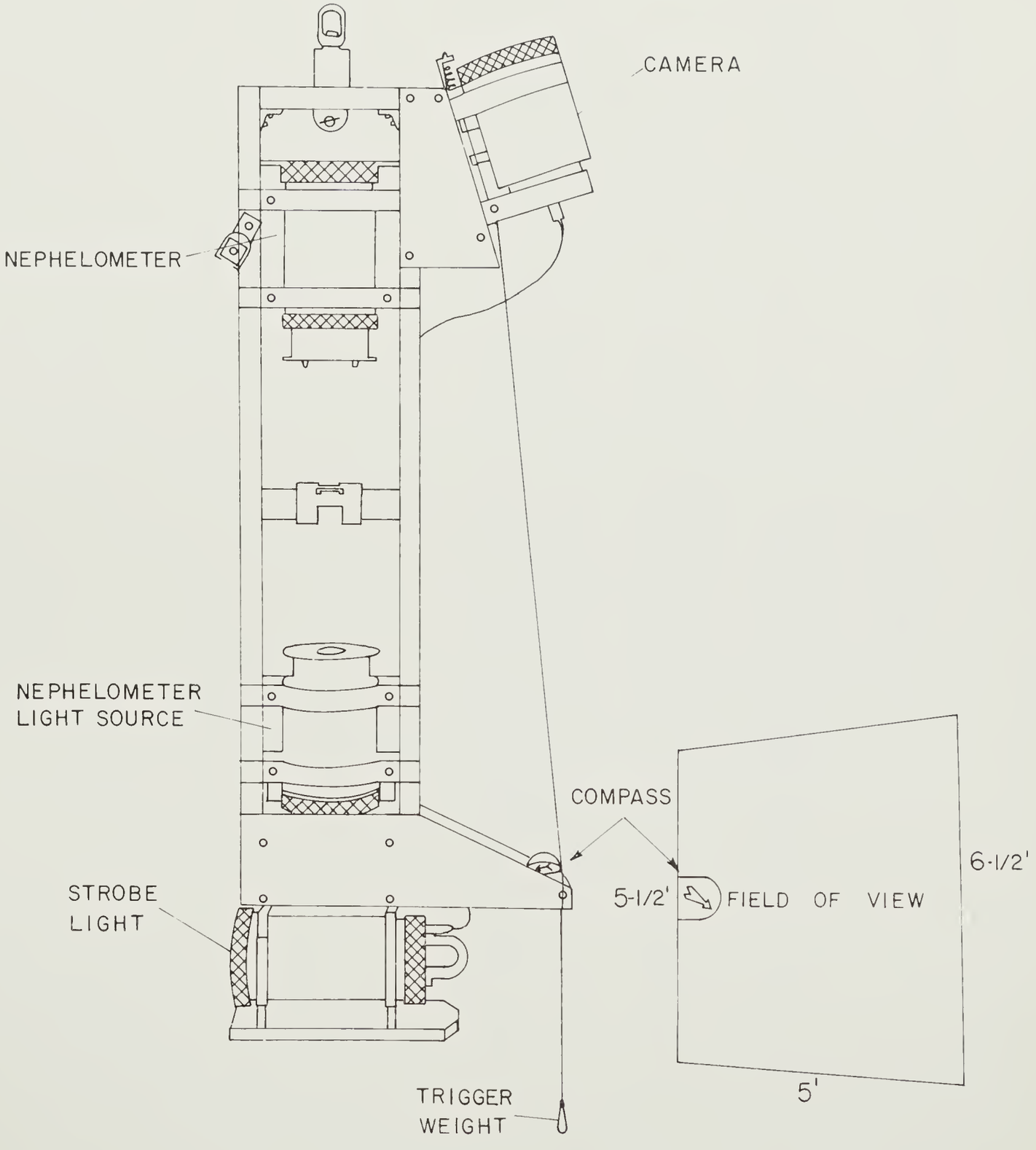
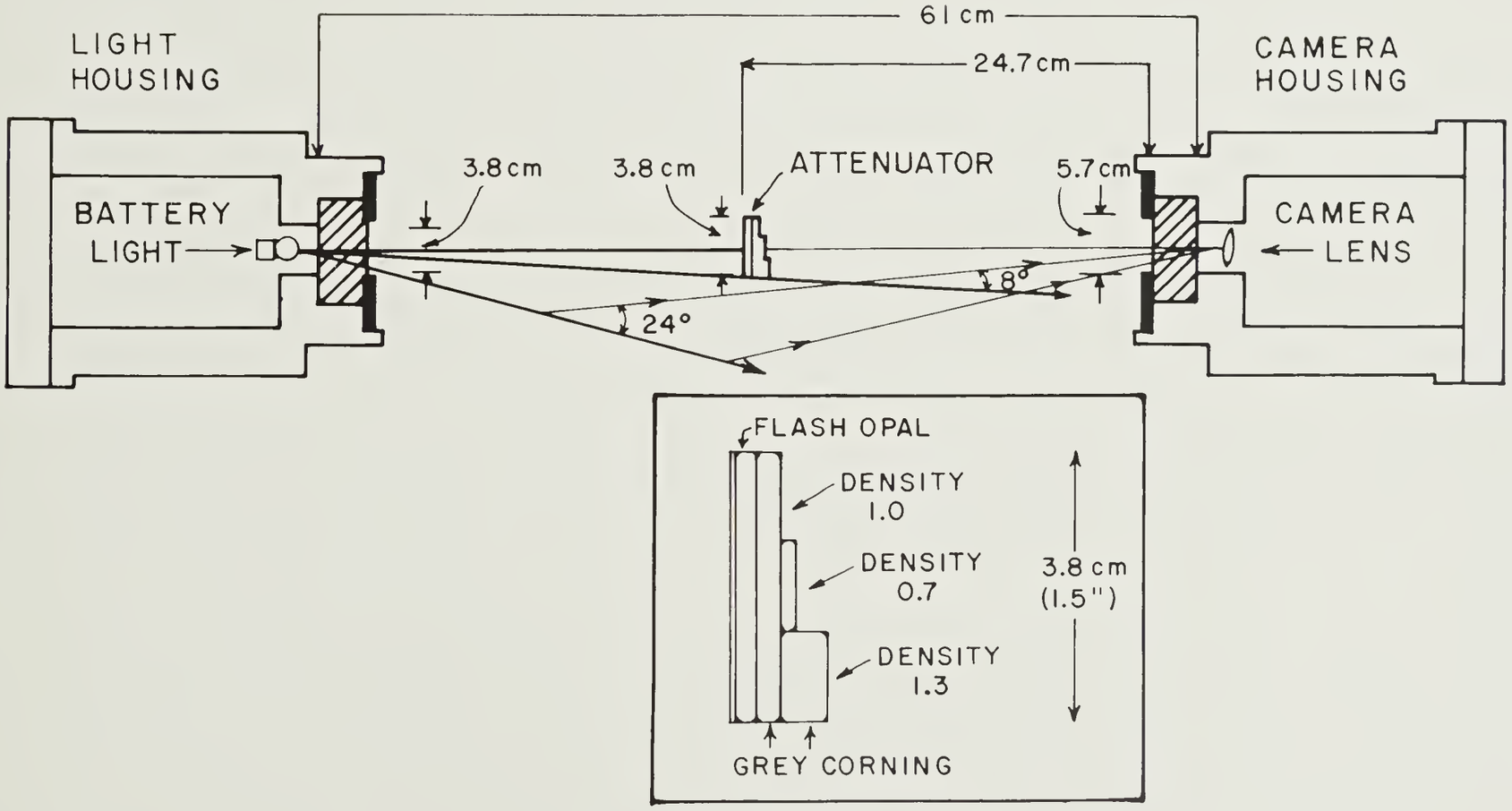


FIGURE 1

NEPHELOMETER



ENLARGED VIEW OF ATTENUATOR

FIGURE 2

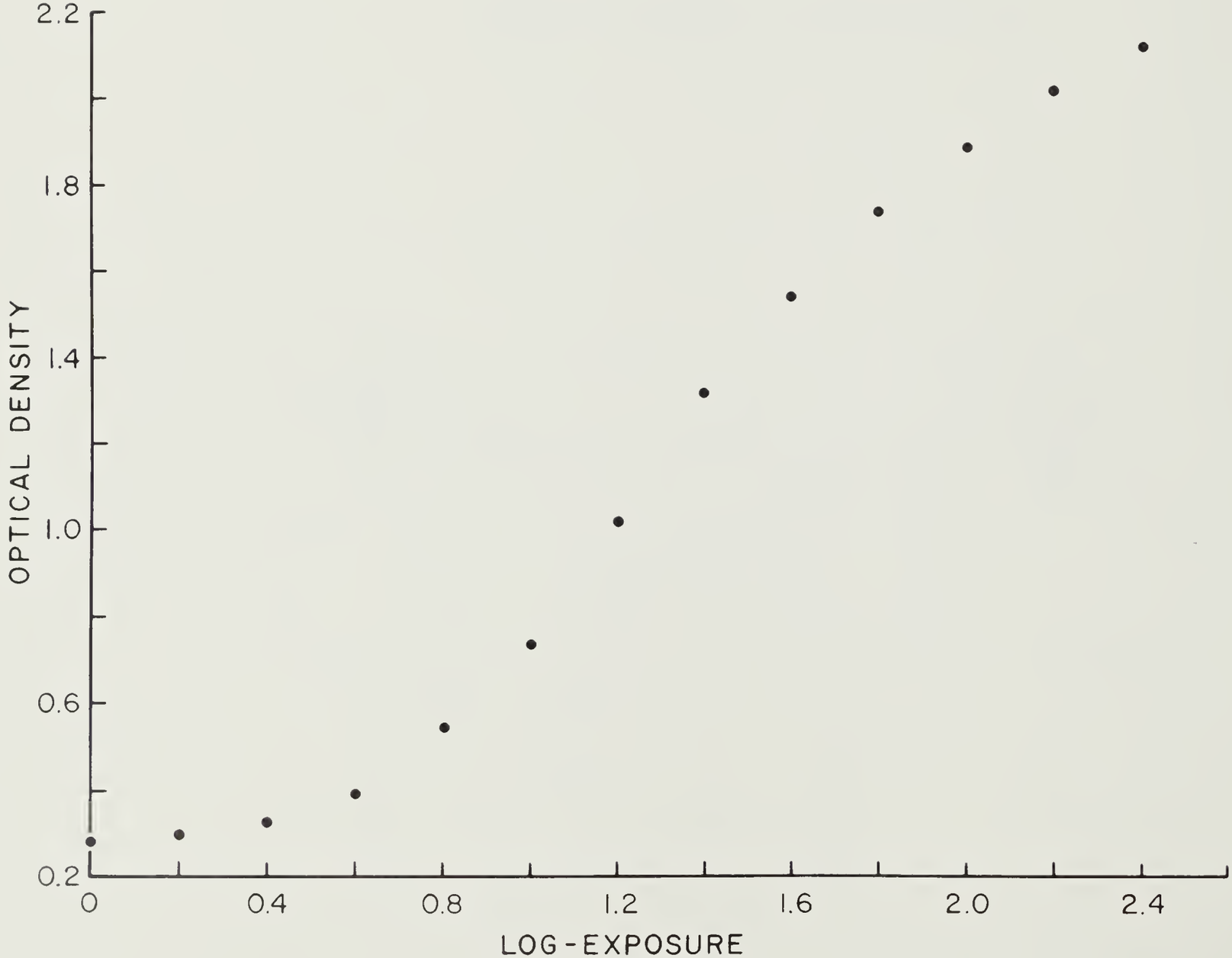

2.2
1.8
1.4
1.0
0.6
0.2
OPTICAL DENSITY
0
0.4
0.8
1.2
1.6
2.0
2.4
LOG-EXPOSURE

FIGURE 3

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. North	Long. West	Msdn Sq.	T I Over	T I Hit	M E Free	M E Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
1	1	2	14 Aug	33 05.2	71 21.1	116	0009	0116	0203	0307	2843	2843	15	15	C1, T1
2	2	3	18 Aug	31 16.7	74 10.9	116	1651	1748	1815	1914	2585	2625	10	9	C2, STD1,2, W1,2
3	3	4	19 Aug	30 24.3	73 33.2	116	0942	1037	1125	1219	2550	2533	17	16	C3, STD3, W3
4	4	5	20 Aug	31 16.6	74 02.0	116	1658	1803	1835	1941	2660	2685	12	11	C4, STD4, W4
5	5	6	21 Aug	30 23.6	73 32.5	116	1806	1859	1944	2041	2497	2462	16	15	C5, T2, STD5, W5
6	6	7	22 Aug	31 16.2	74 13.3	116	1823	1926	2002	2104	2610	2670	12	10	C6, T3, STD6, W6
7	7A	8	23 Aug	30 26.9	73 35.1	116	1452	1705	1717	1825	2557	2525	6	5	W7
8	7	9	24 Aug	31 15.6	74 14.2	116	0940	1123	1137	1246	2489	2563	6	5	C7, T4, STD7, W8,9
9	8	10	25 Aug	30 25.8	73 32.2	116	1229	1324	1413	1514	2575	2542	16	15	C8, T5, STD8, W10
10	9	11	26 Aug	31 16.7	74 12.4	116	1134	1232	1317	1416	2530	2592	16	15	C9, T6, STD9, W11
11A	10	12	27 Aug	30 24.9	73 36.8	116	1334	1427	1515	1609	2512	2478	17	-	C10, T7, STD10, W12
11	11	13	28 Aug	31 18.2	74 10.6	116	1253	1437	1452	1603	2555	2623	6	6	STD11, W13
12	12	14	29 Aug	31 00	71 59.2	116	1503	1604	1648	1750	2850	2850	16	14	C11, STD12, W14
13	13	15	30 Aug	31 00.2	72 01.7	116	1200	1401	1417	1530	2850	2850	6	10	W15
14	14	16	31 Aug	31 00.3	72 00.3	116	1307	1452	1458	1623	2850	2850	3	6	C12, T8, STD13, W16
15	15	17	01 Sep	31 01.3	72 01.2	116	0605	0749	0807	0931	2850	2850	7	8	C13, T9, STD14, W17,18
16	16	17	01 Sep	31 01.3	72 01.2	116	1318	1450	1521	1641	2850	2850	5	4	C13, T9, STD14, W17,18
17	17	18	02 Sep	31 01.1	72 01.2	116	0841	0941	1012	1118	2850	2850	11	9	C14, STD15, W19
18	18	19	03 Sep	31 00.9	72 00.9	116	0713	0817	0854	0957	2850	2848	13	12	C15, T10, STD16, W20
19	19	20	04 Sep	30 23.4	73 35.6	116	0620	0713	0802	0859	2503	2506	16	17	C16, T11, STD17, W21
20	20	21	05 Sep	30 22.8	73 36.8	116	1359	1452	1529	1625	2468	2455	14	11	C17, T12, STD18, W22
21	21	22	06 Sep	30 22.6	73 36.1	116	1359	1450	1534	1628	2465	2454	15	10	C18, T13, STD19, W23
22	22	23	10 Sep	19 10.5	75 07.9	044	0854	0929	1011	1043	1420	1465	14	13	C19, T14
23	23	24	15 Sep	19 36.2	74 28.6	044	1844	1928	2016	2103	1920	1833	16	16	C20, T15
24	24A	25	16 Sep	20 24.8	73 11.2	080	2156	2239	2316	0001	2022	2033	12	12	C21, T16
25	24B	26	17 Sep	20 50.5	72 12.3	080	1825	1912	1955	2054	2182	2182	15	15	C22, T17
26	24	28	19 Sep	22 00.5	70 45.3	080	1933	2037	2114	2219	2898	2896	12	4	C24,25,26, T19
27	25	29	20 Sep	20 09.0	70 44.0	080	1852	1939	2022	2110	2207	2203	15	15	C27, T20
28	26	33	25 Sep	19 12.6	67 11.3	043	0348	0454	0512	0625	3045	2980	7	7	C31

K=Camera N=Nephelometer C=Core T=Thermograd STD=Salinity Temperature Depth W=Water Sample

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. North	Long. West	Msdn Sq.	T I M E Over	Hit	Free	Surface	PDR Depth Fms. Over	Surface	Number Hits	Good	Data
29	27	34	26 Sep	18 49.5	63 46.9	043	1432	1531	1541	1639	2550	2372	4	3	C32
30	28	35	27 Sep	18 45.3	61 41.0	043	1356	1509	1516	1633	3220	3223	3	1	C33
31	29	36	28 Sep	18 18.7	60 27.8	043	1355	1504	1512	1628	3310	3317	4	3	C34, T22
32	30	37	29 Sep	18 33.3	60 50.7	043	1355	1505	1513	1630	3325	3263	4	3	C35
33	31	38	04 Oct	16 47.3	59 00.7	042	0901	1012	1055	1222	3122	3124	14	13	C36,37,38, T23,24
34	32	39	08 Oct	13 08.3	57 33.9	042	0817	0933	1006	1103	2538	2540	12	11	C39,40, T25
35	33	40	09 Oct	12 13.4	57 26.7	042	1643	1935	1820	1913	2366	2352	16	15	C41,42,43, T26
36	34	41	15 Oct	11 01.7	59 34.8	042	0551	0616	0658	0722	861	894	15	15	C44, T27
37	35	42	16 Oct	09 15.2	55 00.3	006	0004	0045	0130	0212	1840	1833	11	11	C45, T28, STD20
38	36	43	17 Oct	10 40.4	54 17.8	042	2150	2241	2327	0021	2410	2403	16	16	C46, T29, STD21
39	37	44	18 Oct	10 37.6	54 19.9	042	2209	2302	2344	0037	2410	2407	15	15	C47, T30
40	38	45	20 Oct	12 34.8	53 08.6	042	0910	1006	1052	1148	2700	2694	16	14	C48, T31
-	39	46	20 Oct	11 34.8	52 10.4	042	0136	0231	0232	0327	2650	2645	-	-	C49, T32, STD22
41	40	47	21 Oct	11 40.0	50 48.5	042	1630	1725	1803	1901	2660	2655	15	14	C50, T33, STD23
42	41	48	22 Oct	11 23.5	50 50.2	042	0201	0257	0335	0431	2642	2642	15	15	C51, T34
43	42	50	23 Oct	14 31.6	49 58.7	041	0814	0911	0952	1047	2608	2613	16	15	C52, T35, STD25
44	43	51	24 Oct	10 30.5	49 13.3	041	2055	2151	2232	2337	2608	2608	15	15	C53, T36
45	44	52	25 Oct	10 30.6	47 16.9	041	1453	1553	1633	1729	2586	2586	15	13	C54, T37
46	45	53	26 Oct	10 20.8	45 18.4	041	0819	0927	1008	1107	2556	2527	16	15	C55, T38
47	46	54	27 Oct	05 35.2	45 27.1	005	2122	2205	2238	2323	2144	2146	10	1	C56, T39, STD26
48	47	55	28 Oct	05 41.6	45 06.0	005	0706	0749	0827	0911	2080	2075	16	15	C57, T40A
49	48	59	30 Oct	01 40.4	43 38.2	005	2151	2240	2319	2412	2231	2231	15	15	STD30
50	49	60	31 Oct	03 07.5	42 53.1	005	1549	1637	1727	1818	2292	2291	16	15	C58, T40
51	50	63	03 Nov	06 41.1	43 27.2	005	1934	2025	2103	2156	2427	2430	15	15	C61, T43, STD32
52	51	64	04 Nov	08 17.9	41 34.8	005	1822	1918	1955	2050	2570	2568	15	15	C62, T44
53	52	66	05 Nov	05 46.1	40 25.9	005	2002	2100	2139	2234	2531	2530	15	15	C63, T45, STD34
54	53	69	07 Nov	05 18.2	38 57.8	004	1243	1348	1428	1520	2424	2444	16	15	C65, T46A

C=Core T=Thermograd STD=Salinity Temperature Depth

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. South	Position Long. West	Msdn Sq.	T I M E Over	T I M E Hit	T I M E Free	T I M E Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
55	54	72	09 Nov	00 44.8	36 38.0	303	1102	1154	1232	1323	2355	2358	16	15	C66, T46
56	55	73	11 Nov	04 59.5	33 59.6	303	1626	1713	1755	1841	2193	2188	18	15	C67, T47
57	56	74	12 Nov	06 34.5	33 34.3	303	1043	1132	1217	1306	2320	2327	17	16	C68, T48
58	57	75	19 Nov	12 56.8	33 57.6	339	1643	1736	1836	1911	2390	2400	16	15	C69, T49
59	58	76	20 Nov	14 53.9	33 44.9	339	0919	1017	1057	1150	2430	2431	15	14	C70, T50
60	59	77	21 Nov	15 54.1	31 51.6	339	0929	1023	1104	1200	2505	2503	17	16	C71, T51
61	60	78	22 Nov	15 22.6	28 27.1	338	0923	1023	1104	1207	2910	2943	16	15	C72, T52A
62	61	79	23 Nov	15 01.0	25 15.2	338	0845	0944	1032	1133	2860	2852	18	17	C73
63	62	80	24 Nov	14 23.7	21 26.6	338	1112	1208	1246	1344	2560	2692	16	14	C74
64	63	81	25 Nov	13 45.7	18 35.7	337	0848	0939	1022	1117	2450	2360	16	15	C75
65	64	82	26 Nov	13 17.0	16 16.2	337	0337	0419	0459	0541	1963	1975	15	14	C76, T52
66	65	84	27 Nov	12 56.4	14 14.1	337	2207	2234	2332	2401	1324	1390	20	20	
67	66	86	28 Nov	12 58.5	14 56.0	337	1628	1701	1754	1828	1580	1593	18	16	
68	-	89	01 Dec	12 51.5	14 34.9	337	0928	1007	1058	1137	1990	2055	16	13	
69	-	90	02 Dec	13 27.1	14 48.3	337	0833	0902	0938	1008	1550	1520	12	11	
70	-	93	03 Dec	14 06.4	14 25.0	337	1316	1355	1435	1512	2120	2018	15	11	
71	-	95	04 Dec	13 19.8	15 24.0	337	1458	1529	1612	1644	1660	1723	15	14	
72	67	97	08 Dec	12 39.2	13 26.0	337	1026	1106	1150	1232	1818	1820	16	15	C77, T53
73	68	98	10 Dec	15 56.3	16 00.7	337	0903	0943	1027	1115	1907	1889	16	15	C78, T54
74	69	99	11 Dec	16 43.5	19 34.4	337	0941	1031	1116	1207	2382	2324	16	15	C79, T55
75	70	100	12 Dec	17 32.4	23 32.2	338	1254	1352	1439	1540	2750	2830	16	15	C80, T56
76	71	101	13 Dec	18 02.8	26 30.1	338	0851	0951	1035	1139	2905	2920	16	15	C81, T57
77	72	102	14 Dec	18 50.1	32 01.3	339	2049	2139	2220	2317	2306	2288	15	13	C82, T58A
78	73	104	22 Dec	26 47.0	43 20.3	376	1318	1350	1439	1510	1298	1322	16	15	C84, T59
79	74	105	23 Dec	29 55.4	43 25.4	376	1251	1339	1434	1523	2070	2085	16	13	C85, T60
80	75	106	24 Dec	32 09.9	43 55.1	412	0857	0939	1017	1102	2004	2005	12	8	C86, T61
81	76	107	26 Dec	37 47.7	45 18.2	412	0855	1005	1102	1205	2734	2734	17	15	C87, T62

C=Core T=Thermograd

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. South	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
82	77	108	27 Dec	40 05.2	45 48.8	448	0858	1028	1058	1212	2746	2746	10	8	C88, T63
83	-	109	28 Dec	40 31.5	49 18.4	448	0856	1001	1054	1202	2892	2892	17	16	C89, T64
84A	78	110	29 Dec	41 16.2	52 53.9	449	1018			1314	2920	2935			C90, T65
84	79	111	30 Dec	42 47.1	53 57.0	449	0851	0959	1049	1200	2943	2943	16	15	C91, T66
85	80	112	31 Dec	45 16.0	53 23.6	449	0949	1056	1149	1300	3140	3135	16	14	C92, T67
			1973												
86	81	113	01 Jan	45 19.2	56 42.6	449	0950	1049	1141	1243	2743	2754	17	9	C93, T68
87	82	114	03 Jan	46 20.7	59 32.4	449	0230	0245	0329	0349	560	563	15	15	C94, T69
88	83	115	03 Jan	46 21.3	58 51.1	449	0829	0856	0937	1004	1260	1242	16	15	C95
89	84	116	04 Jan	47 33.2	57 14.5	449	0853	0942	1030	1127	2247	2247	16	15	C96, T70
90	85	117	05 Jan	47 07.2	57 39.1	449	0922	1009	1057	1145	2136	2142	16	14	C97, T71
91	86	118	07 Jan	47 37.9	61 09.5	450	0931	0935	1022	1025	80	82	17	8	C98, T72
92	-	119	09 Jan	50 40.7	66 26.1	486	0911	0915	0959	1003	59	58	16	15	C99
93	-	120	11 Jan	52 52.7	65 43.0	486	0922	0925	1018	1021	65	65	16	15	C100, T73
94	-	121	13 Jan	49 20.3	60 59.2	450	0923	0928	1019	1024	92	92	18	17	C101
95	87	122	15 Jan	53 17.4	62 58.1	486	1001	1007	1051	1059	242	243	16	15	C102A, T74
96	88	123	17 Jan	53 31.2	62 48.0	486	0851	0858	0943	0950	268	268	16	15	C102
97	89	124	25 Jan	55 23.1	61 45.6	486	1020	1131	1218	1305	2243	2242	16	15	C103, T75A
98	-	125	26 Jan	52 39.4	59 18.0	485	1621	1623	1653	1656	67	67	11	10	C104A
99	90	126	27 Jan	53 36.8	56 01.5	485	1347	1427	1505	1540	1660	1630	13	13	C104
100	91	127	28 Jan	53 59.9	53 41.2	485	1111	1126	1211	1230	684	700	16	15	C105
101	92	128	30 Jan	49 14.7	52 40.3	449	1834	1908	1954	2029	1528	1520	16	15	C106
102	93	129	01 Feb	50 15.6	51 08.8	485	1329	1355	1440	1505	1205	1222	16	15	C107
103	94	130	02 Feb	50 35.5	46 12.6	484	1833	1852	1937	1956	910	915	16	6	C108
104	95	131	03 Feb	52 25.9	46 44.1	484	2127	2209	2242	2325	1945	1987	12	12	C109, T75B
105	96	132	05 Feb	54 46.8	46 02.1	484	0007	0107	0142	0245	2648	2648	12	12	C110
106	97	133	06 Feb	51 13.9	43 27.3	484	1621	1643	1723	1746	943	939	13	12	C111, T75
107	98	134	07 Feb	53 13.1	41 57.6	484	1949	2012	2051	2120	914	913	14	11	C112

C=Core T=Thermograd

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1973	Position Lat. South	Position Long. West	Msdn Sq.	T I M E Over	T I M E Hit	T I M E Free	T I M E Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
108	99	135	08 Feb	51 56.4	39 55.5	483	1445	1526	1608	1653	2004	2000	15	14	C113, T76
109	100	136	17 Mar	41 21.3	56 22.9	449	1613	1637	1754	1815	1295	923	15	6	C114,115
-	101	143	27 Mar	42 33.3	56 57.4	449	0137			0410	1603	1703			STD165
110	102	147	27 Mar	43 08.6	56 08.6	449	0009	0104	0139	0237	2550	2555	10	10	C116, STD169
111A	103	149	28 Mar	44 00.1	54 42.2	449	0231	0344	0419	0605	2990	3010	11		STD171
111	104	151	30 Mar	45 20.1	52 10.7	449	0216	0323	0403	0517	3196	3196	10	10	STD173
-	105	152	30 Mar	45 54.9	50 02.3	449	2224	0023	0024	0224	3115	3120			STD174
112	106	153	31 Mar	46 27.4	47 59.3	448	2145	2247	2333	0043	3020	3020	8	8	STD175
-	107	156	02 Apr	46 55.6	39 02.3	447	2329			0338	3003	2995			STD176
113	108	157	03 Apr	47 01.1	39 51.1	447	1304	1403	1438	1536	2753	2860	13	11	STD177
114	109	160	05 Apr	46 58.9	44 08.8	448	1048	1150	1237	1340	2819	2810	16	13	STD179
-	110	162	08 Apr	48 53.9	36 43.3	447	1400			1730	2480	2742			STD181
-	111	164	09 Apr	49 10.7	36 44.1	447	1316			1700	2110	2572			STD183
-	112	165	09 Apr	49 07.6	36 14.6	447	2305			0145	2370	2553			STD184
-	113	166	10 Apr	49 06.8	35 57.5	447	0425			0750	2770	2739			STD185
-	114	167	10 Apr	48 50.6	34 53.7	447	1249			1500	1780	1850			STD186
-	115	168	10 Apr	49 03.0	35 18.5	447	1829			2104	2600	2567			STD187
-	116	170	15 Apr	42 59.2	47 57.8	448	1108			1346	2817	2829			STD188,189
-	117	171	15 Apr	42 33.0	48 59.2	448	2131			0219	2990	2998			STD190
-	118	172	16 Apr	42 01.3	50 01.3	449	0926			1344	3075	3075			STD191
-	119	173	16 Apr	41 30.4	51 00.9	449	2101			2215	2695	2770			STD192
-	120	174	17 Apr	40 30.5	53 05.5	449	1622			1933	2807	2822			STD193
-	121	177	19 Apr	39 34.0	54 40.3	413	0844			1040	975	1065			STD194
-	122	178	19 Apr	39 37.9	54 29.0	413	1209			1400	1510	1648			STD195
-	123	179	19 Apr	39 44.0	54 14.5	413	1520			1822	2005	2064			STD196
-	124	180	19 Apr	39 58.0	53 51.6	413	2118			0008	2450	2445			STD197
115	125	180	19 Apr	39 58.0	53 51.6	413	0128	0220	0303	0400	2470	2485	16	15	STD197

C=Core T=Thermograd STD=Salinity Temperature Depth

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1973	Position Lat. South	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
116	126	181	20 Apr	40 10.9	53 29.3	449	1231	1327	1408	1507	2665	2665	14	0	STD198A
-	127	182	07 May	32 42.9	46 00.9	412	1334			1511	2133	2131			C117
117	128	183	08 May	31 57.6	48 28.7	412	1325	1358	1444	1520	1545	1530	16	16	C118
118A	129	184	11 May	27 43.0	46 30.7	376	1620	1642	1735	1754	862	862	16	-	C119, T77
118	130	185	13 May	28 47.2	46 24.9	376	1424	1502	1544	1612	1255	1257	15	14	C120, T78
119	131	186	14 May	26 31.8	45 14.5	376	1323	1346	1430	1455	1145	1135	15	14	C121, T79
120	132	188	15 May	25 27.0	44 13.6	376	1547	1609	1630	1652	1033	1055	8	7	C123, T81
121	133	189	15 May	25 29.3	44 09.6	376	2016	2037	2118	2139	1033	1049	16	16	C124, T82
122	-	190	16 May	25 26.8	44 07.0	376	0414	0438	0511	0535	1080	1089	16	16	C125, T83
123	134	192	17 May	29 35.3	45 39.0	376	2133	2211	2255	2332	1772	1779	17	17	C127, T85
124	135	193	18 May	29 27.8	44 19.9	376	2004	2044	2127	2211	1949	1962	16	15	C128, T86A
125A	136	194	19 May	27 47.2	43 05.7	376	1357	1427	1512	1545	1493	1490	16	-	C129, T86
125	137	195	20 May	26 59.5	41 39.7	376	1447	1517	1556	1627	1450	1472	16	15	C130, T87
126	138	199	22 May	28 24.3	40 47.0	376	2128	2221	0240	0334	2355	1720	31	29	
127	139	201	25 May	30 28.0	36 00.9	411	1157	1211	1511	1525	600	650	46	43	
128	-	202	26 May	29 59.4	35 08.2	375	0637	0701	0744	0809	1195	1181	16	15	C135,136
129	140	203	27 May	27 50.1	37 04.1	375	0640	0730	0815	0907	2475	2443	15	14	C137, T92
130	141	204	28 May	27 05.9	40 15.1	376	1439	1520	1602	1643	1943	1957	15	14	C138, T93
-	142	205	29 May	26 22.0	39 36.9	375	2219			2336	2010	1923			T94
131	143	206	05 Jun	22 26.2	37 33.2	375	1520	1535	1646	1700	713	549	25	7	
132	144	207	07 Jun	22 07.8	39 25.8	375	1436	1505	1547	1627	1273	1268	16	15	C139
133	145	208	08 Jun	21 31.7	37 50.6	375	1345	1428	1516	1603	1972	1970	16	15	C140
134	146	209	10 Jun	20 53.5	37 51.2	375	1255	1320	1407	1433	1165	1295	16	15	C141
135	147	210	11 Jun	20 21.8	36 21.9	375	1812	1831	1919	1939	898	938	16	16	C142
136	148	211	12 Jun	19 10.1	35 25.7	339	1022	1107	1158	1245	2175	2172	16	11	C143
137	149	213	14 Jun	17 43.4	36 02.9	339	1345	1418	1510	1535	1226	1100	27	14	C145
138	150	214	15 Jun	17 09.4	37 11.3	339	0857	0919	1005	1025	720	965	16	15	C146

C=Core T=Thermograd STD=Salinity Temperature Depth

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1973	Position Lat. South	Position Long. West	Msdn Sq.	T I M E Over	T I M E Hit	T I M E Free	T I M E Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
139	151	215	17 Jun	16 12.6	36 16.2	339	1440	1527	1613	1700	2238	2235	16	15	C147
140	152	216	18 Jun	15 48.4	37 19.9	339	1540	1634	1716	1803	2124	2121	16	15	C148
141	153	217	19 Jun	15 46.4	38 38.7	339	0718	0729	0814	0823	490	316	16	16	C149, 150
142	154	218	20 Jun	14 32.7	36 26.2	339	1022	1111	1154	1243	2333	2326	16	15	C151A
143	155	219	21 Jun	13 58.5	38 09.4	339	1558	1631	1716	1750	1615	1593	16	15	C151
144	156	220	22 Jun	13 24.1	37 22.2	339	1615	1656	1742	1824	1945	1939	16	15	C152
145	157	221	23 Jun	13 05.4	36 47.8	339	1723	1809	1856	1941	2120	2094	16	13	C153
146	158	222	24 Jun	13 12.3	34 43.4	339	1322	1412	1510	1600	2378	2371	16	11	C154
147	159	223	25 Jun	12 17.1	36 53.4	339	1300	1336	1422	1500	1750	1703	16	13	C155
148	160A	224	26 Jun	11 35.7	35 25.7	339	1548	1635	1721	1804	1954	1936	16	15	C156
149	160	225	28 Jun	10 16.6	33 41.2	339	1045	1145	1233	1330	2526	2522	17	15	C157
150	161	226	29 Jun	09 16.1	33 59.5	303	1644	1729	1816	1959	2060	1855	16	14	C158
151	162	227	30 Jun	08 57.3	34 07.5	303	1433	1506	1551	1623	1465	1521	16	14	C159
152A	163	228	01 Jul	08 47.7	33 25.3	303	1523	1606	1651	1733	2060	2007	16	-	C160
152B	164	229	02 Jul	08 28.5	33 22.6	303	1105	1201	1249	1345	2480	2462	16	-	C161
152	164.1	231	11 Jul	02 53.1	35 52.0	303	1300	1341	1419	1505	1915	1915	3	1	C163
153	165	232	14 Jul	01 47.3	37 20.6	303	1618	1701	1724	1810	1921	1921	9	8	C164
154	166	233	17 Jul	00 16.4	37 42.9	303	1027	1116	1141	1231	2353	2354	11	10	C165
155	167	234	19 Jul	00 29.1	43 03.5	304	1458	1539	1604	1645	1740	1705	9	6	C166
				North											
157	168	236	22 Jul	03 23.5	48 24.9	005	1916	1925	1944	1955	365	356	8	8	C167
158	169	238	23 Jul	03 35.1	47 53.5	005	1556	1613	1635	1651	790	763	8	5	C169
159	170	239	24 Jul	03 27.4	46 43.5	005	1448	1520	1538	1613	1485	1474	7	6	C170
160	171	240	25 Jul	04 24.5	46 13.4	005	1034	1118	1147	1228	1918	1922	11	10	C171
161	172	241	26 Jul	05 39.2	48 59.3	005	1327	1406	1428	1505	1784	1750	8	7	C172
162	173	242	27 Jul	06 17.4	47 34.7	005	1124	1209	1230	1315	2095	2096	8	7	C173
163	174	243	28 Jul	05 54.0	45 23.0	005	1011	1056	1115	1202	2190	2190	8	7	C174

C=Core

CONRAD - 16 OPTICS INDEX

K Stn.	N Stn.	Ship Stn.	Date 1973	Position Lat. North	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
164	175	244	29 Jul	07 53.1	45 56.4	005	1355	1443	1450	1537	2384	2384	3	2	C175
165	176	245	30 Jul	08 43.2	46 55.2	005	1325	1417	1431	1525	2460	2460	7	4	C176
166	177	246	09 Aug	17 53.9	64 50.3	043	1911	1959	2014	2104	2310	2343	6	5	
167	178	247	10 Aug	19 48.9	63 03.8	043	2005	2117	2210	2325	3407	3552	16	16	C177, T95
168	179A	248	12 Aug	22 07.7	60 39.9	079	0755	0859	0935	1040	3107	3106	16	15	C178, T96A
169	179	249	13 Aug	24 19.8	58 43.9	078	1428	1535	1620	1730	3224	3121	16	15	C179, T96
170A	180	250	14 Aug	24 21.1	58 43.3	078	0847	0953	1101	1207	3222	3220	25	-	C180, T97
170	181	252	14 Aug	24 35.1	58 45.6	078	2046	2153	2253	2400	3130	3148	25	2	C182, T98
171	182	253	15 Aug	25 47.0	58 46.3	078	1331	1440	1523	1634	3284	3284	16	14	C183, T99
172	183	254	16 Aug	28 29.4	59 00.2	078	1341	1447	1534	1640	3136	3118	16	16	C184, T100A
173	184	255	17 Aug	27 54.7	59 11.7	078	0623	0733	0821	0928	3322	3328	16	12	C185, T100
174	185	256	17 Aug	26 51.4	59 18.1	078	1919	2028	2126	2235	3370	3371	16	16	C186, T101
175	186	257	18 Aug	26 35.5	59 50.9	078	1909	2008	2118	2215	2754	2945	25	24	C187, T102
176	187	258	19 Aug	27 24.0	59 42.9	078	0756	0859	1008	1113	3038	3192	25	23	C188, T103
177	188	259	19 Aug	27 42.9	59 46.6	078	1420	1519	1625	1725	2815	2945	25	20	C189, T104
178	-	260	20 Aug	26 38.5	59 52.9	078	1922	2042	2132	2305	3050	3082	25	24	C190, T105
179	-	261	21 Aug	26 34.8	59 51.8	078	0744	0836	0943	1040	2778	2915	25	24	C191, T106
180	-	263	23 Aug	27 04.4	58 55.2	078	0751	0844	0917	1004	2910	2973	12	11	C193, T108
181	-	264	23 Aug	27 01.9	58 50.1	078	1406	1458	1533	1631	2723	2780	12	10	
182	-	265	23 Aug	26 59.0	58 49.5	078	1839	1932	2017	2108	2743	2785	14	13	
183	-	268	26 Aug	27 16.0	60 45.5	079	1504	1558	1641	1830	3080	3080	16	13	C194, T109
184	189	271	28 Aug	28 46.9	60 22.7	079	1213	1325	1342	1448	2947	3112	7	6	
185	-	272	28 Aug	28 40.9	60 18.7	079	1644	1737	1803	1905	3000	2955	11	11	C195, T110
186	190	273	29 Aug	29 04.6	60 53.2	079	1626	1725	1804	1911	2800	2827	14	12	C196, T111
187	191	275	30 Aug	27 56.7	60 49.7	079	1438	1544	1617	1722	3228	3212	13	10	C197, T112
188	-	276	31 Aug	29 07.9	61 05.2	079	1035	1130	1219	1230	2237	2239	19	11	C198
189	192	277	01 Sep	27 55.4	61 16.8	079	1032	1142	1210	1320	3340		11	10	C199, T113

C=Core T=Thermograd

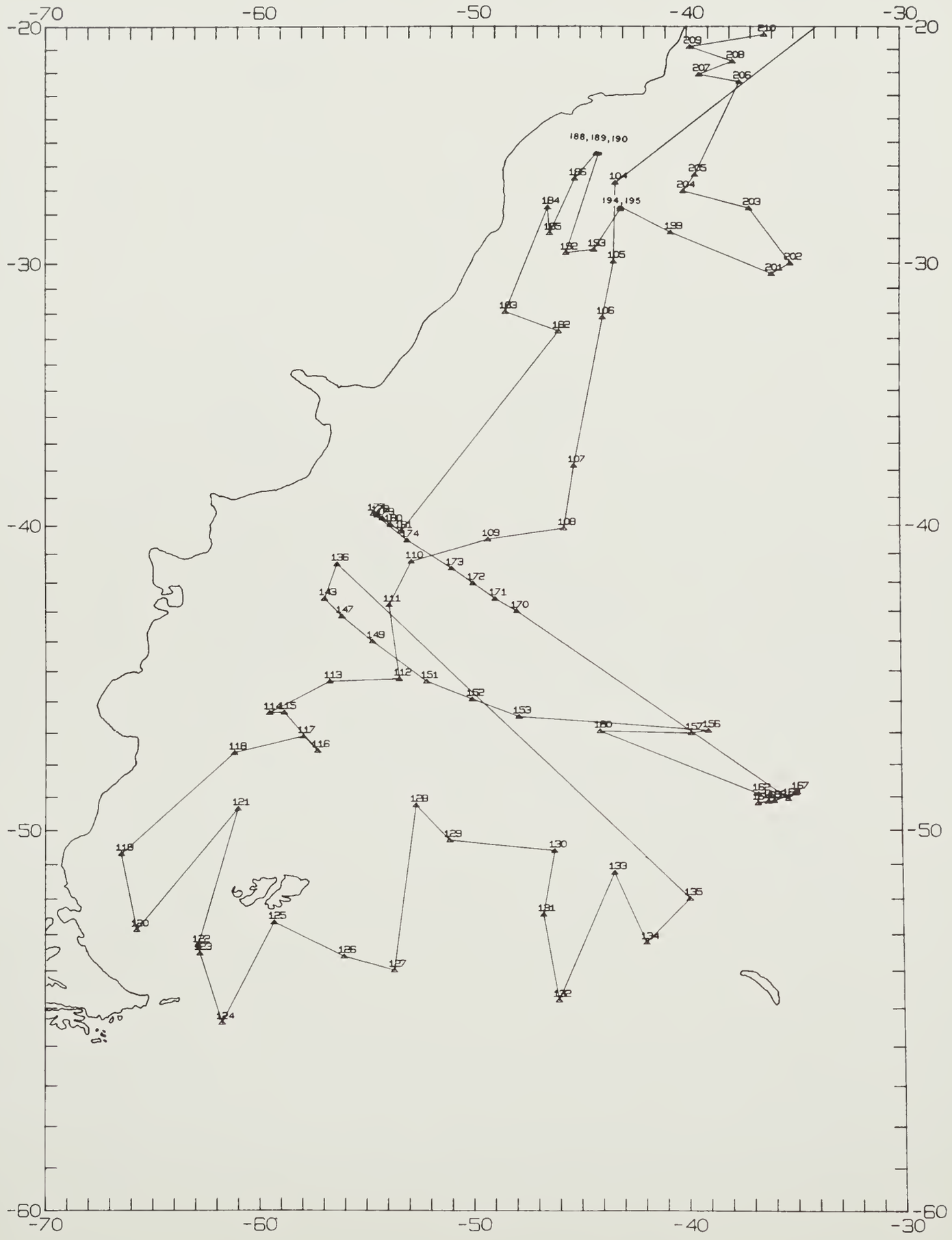
K Stn.	N Stn.	Ship Stn.	Date 1973	Position Lat. North	Long. West	Msdn Sq.	T I M E Over	Hit	Free	Surface	PDR Depth Fms. Over	Surface	Number Hits	Good	Data
190	193	278	01 Sep	27 52.4	61 35.3	079	2154	2318	2345	2447	2950	2928	11	10	
191	194	279	02 Sep	28 21.1	62 08.6	079	1659	1801	1842	1945	3040	2985	16	15	C200, T114
192	195	280	04 Sep	29 28.8	65 29.0	079	1344	1440	1521	1620	2706	2695	16	14	C201, T115
193	-	281	04 Sep	29 27.2	65 36.9	079	2030	2116	2155	2305	2422	2518	15	15	
194	-	282	06 Sep	30 44.7	67 46.2	115	0820	0926	1017	1116	2719	2717	20	16	C202, T116
195	196	284	07 Sep	31 02.3	67 09.0	115	0922	1016	1050	1200	2647	2645	16	14	C203, T117
196	-	285	07 Sep	31 16.1	67 32.9	115	1845			2201	2465	2213	7	6	C204, T118


CONRAD CRUISE 16
SHIP STATIONS WITH NEPHELOMETER AND BOTTOM CAMERA DATA
-90
-80
-70
-60
-50
-40
40
30
20
10
3,5,7,11,13
14 - 19
6,8,10,12,
20-22
256,257,263-265
260, 261


CONRAD CRUISE 16
SHIP STATIONS WITH NEPHELOMETER AND BOTTOM CAMERA DATA
-60
-50
-40
-30
-20
-10
10
0
-10
-20

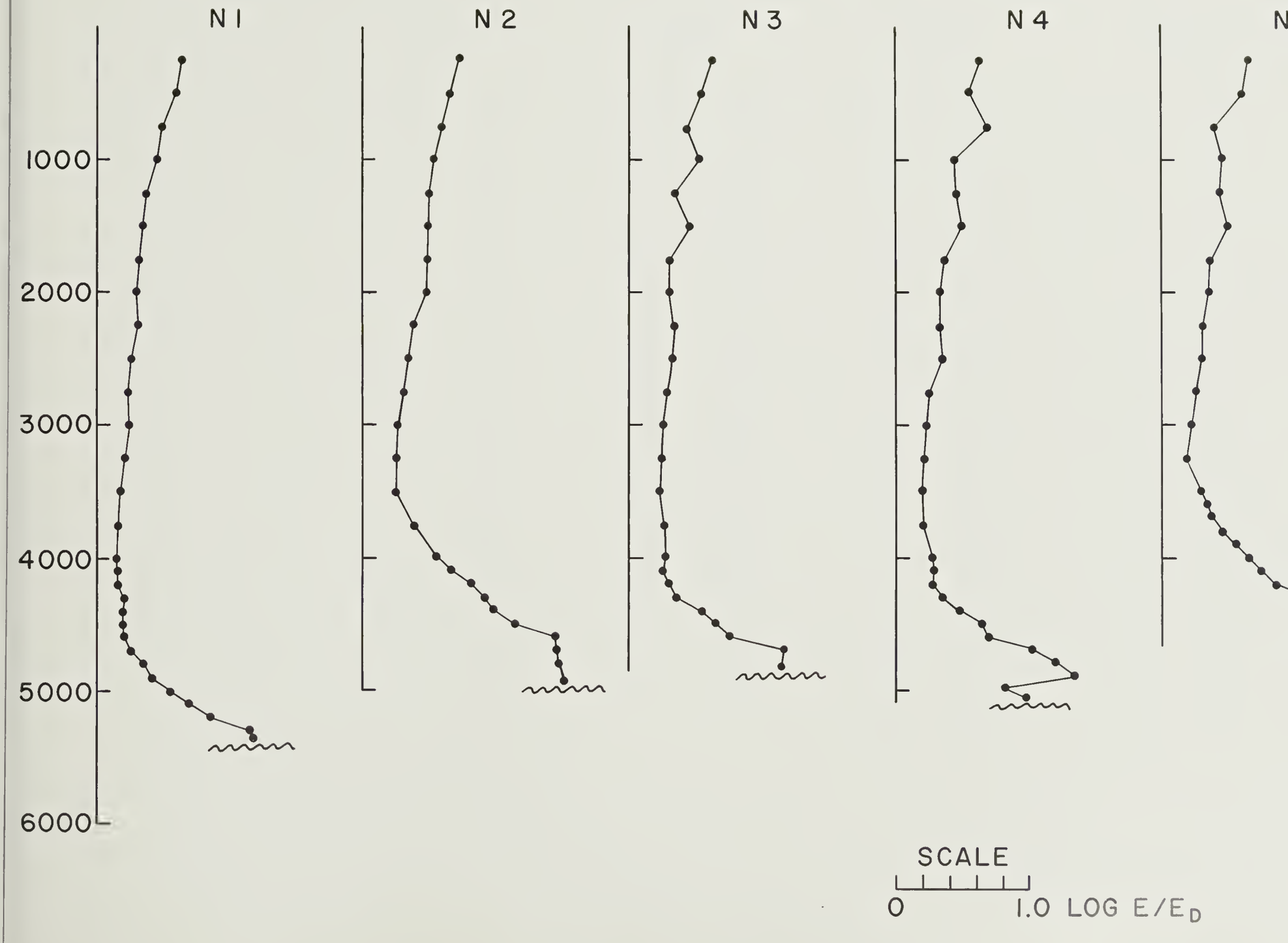
CONRAD CRUISE 16

SHIP STATIONS WITH NEPHELOMETER AND BOTTOM CAMERA DATA



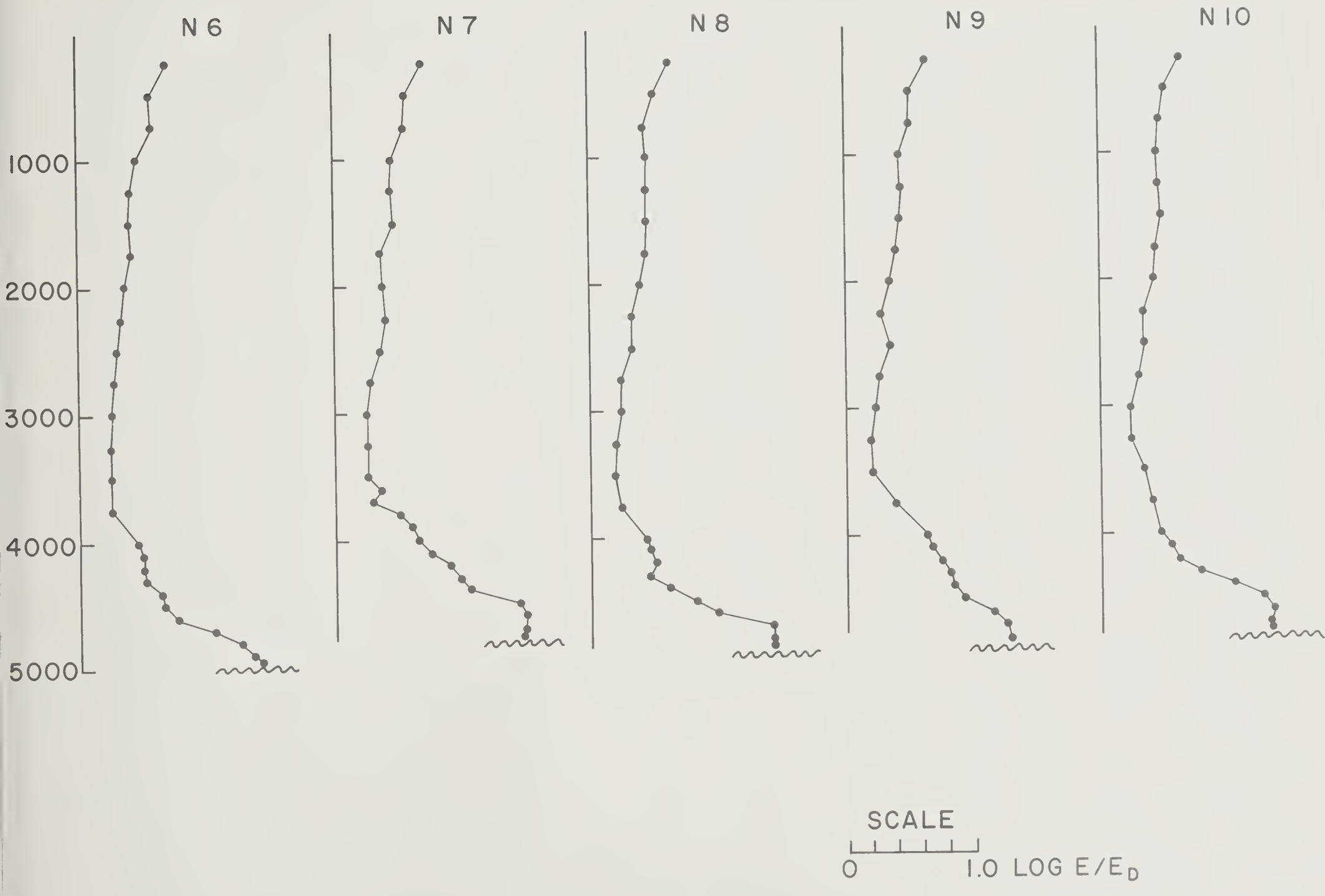
NEPHELOMETER PROFILES

N 1		N 2		N 3		N 4		N 5	
33°05'N 71°21'W 5391 m		31°12'N 74°05'W 4945 m		30°24'N 73°33'W 4821 m		31°14'N 73°58'W 5073 m		30°22'N 73°35'W 4685 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.64	250	.72	250	.62	250	.62	250	.66
500	.60	500	.64	500	.52	500	.56	500	.59
750	.50	750	.60	750	.44	750	.70	750	.40
1000	.44	1000	.52	1000	.52	1000	.43	1000	.44
1250	.38	1250	.50	1250	.34	1250	.46	1250	.42
1500	.34	1500	.49	1500	.45	1500	.49	1500	.48
1750	.32	1750	.49	1750	.30	1750	.35	1750	.36
2000	.31	2000	.47	2000	.29	2000	.33	2000	.35
2250	.33	2250	.38	2250	.34	2250	.33	2250	.31
2500	.27	2500	.34	2500	.32	2500	.34	2500	.28
2750	.26	2750	.31	2750	.29	2750	.26	2750	.25
3000	.25	3000	.27	3000	.26	3000	.22	3000	.21
3250	.22	3250	.25	3250	.23	3250	.21	3250	.19
3500	.18	3500	.26	3500	.22	3500	.19	3500	.30
3750	.17	3750	.40	3750	.27	3750	.20	3600	.33
4000	.16	4000	.55	4000	.27	4000	.29	3700	.36
4100	.17	4100	.67	4100	.26	4100	.29	3800	.42
4200	.17	4200	.81	4200	.30	4200	.28	3900	.56
4300	.21	4300	.92	4300	.36	4300	.34	4000	.63
4400	.20	4400	.98	4400	.53	4400	.49	4100	.73
4500	.21	4500	1.14	4500	.67	4500	.65	4200	.87
4600	.20	4600	1.46	4600	.77	4600	.69	4300	1.11
4700	.27	4700	1.45	4700	1.18	4700	1.01	4400	1.34
4800	.34	4800	1.48	4821	1.19	4800	1.20	4500	1.36
4900	.41	4945	1.51			4900	1.32	4600	1.36
5000	.55					5000	.81	4685	1.39
5100	.70					5073	.99		
5200	.85								
5300	1.14								
5391	1.18								


N1
N2
N3
N4
N
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E_D

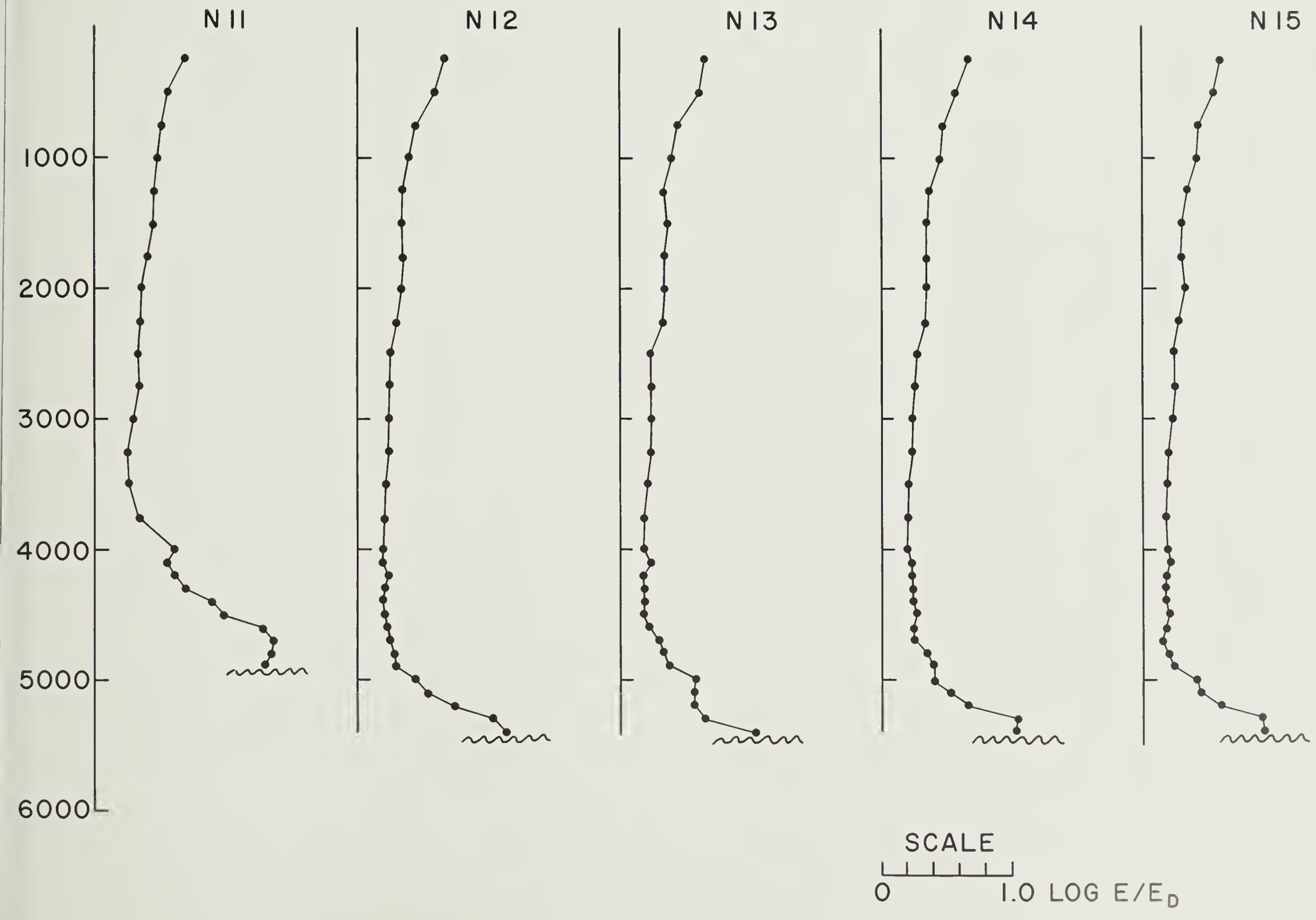
NEPHELOMETER PROFILES

N 6		N 7		N 8		N 9		N 10	
31°20'N 74°06'W 4962 m		31°18'N 74°09'W 4793 m		30°25'N 73°33'W 4871 m		31°18'N 74°13'W 4822 m		30°25'N 73°36'W 4749 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.69	250	.71	250	.64	250	.65	250	.66
500	.54	500	.57	500	.52	500	.52	500	.53
750	.58	750	.57	750	.43	750	.52	750	.49
1000	.45	1000	.46	1000	.47	1000	.44	1000	.47
1250	.41	1250	.44	1250	.47	1250	.45	1250	.48
1500	.40	1500	.48	1500	.47	1500	.42	1500	.50
1750	.41	1750	.38	1750	.47	1750	.40	1750	.44
2000	.37	2000	.39	2000	.41	2000	.35	2000	.42
2250	.32	2250	.41	2250	.34	2250	.29	2250	.34
2500	.29	2500	.36	2500	.35	2500	.35	2500	.34
2750	.28	2750	.29	2750	.25	2750	.27	2750	.31
3000	.24	3000	.24	3000	.26	3000	.24	3000	.26
3250	.23	3250	.24	3250	.21	3250	.20	3250	.24
3500	.23	3500	.27	3500	.20	3500	.22	3500	.34
3750	.28	3600	.39	3750	.27	3750	.40	3750	.42
4000	.45	3700	.30	4000	.43	4000	.63	4000	.48
4100	.50	3800	.51	4100	.48	4100	.69	4100	.56
4200	.49	3900	.61	4200	.52	4200	.74	4200	.61
4300	.51	4000	.65	4300	.48	4300	.81	4300	.79
4400	.63	4100	.76	4400	.62	4400	.85	4400	1.05
4500	.66	4200	.91	4500	.84	4500	.92	4500	1.29
4600	.77	4300	.99	4600	1.00	4600	1.16	4600	1.37
4700	1.04	4400	1.05	4700	1.44	4700	1.27	4700	1.32
4800	1.28	4500	1.44	4800	1.42	4822	1.30	4749	1.33
4900	1.37	4600	1.50	4871	1.45				
4962	1.43	4700	1.49						
		4793	1.48						


N 6
N 7
N 8
N 9
N 10
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

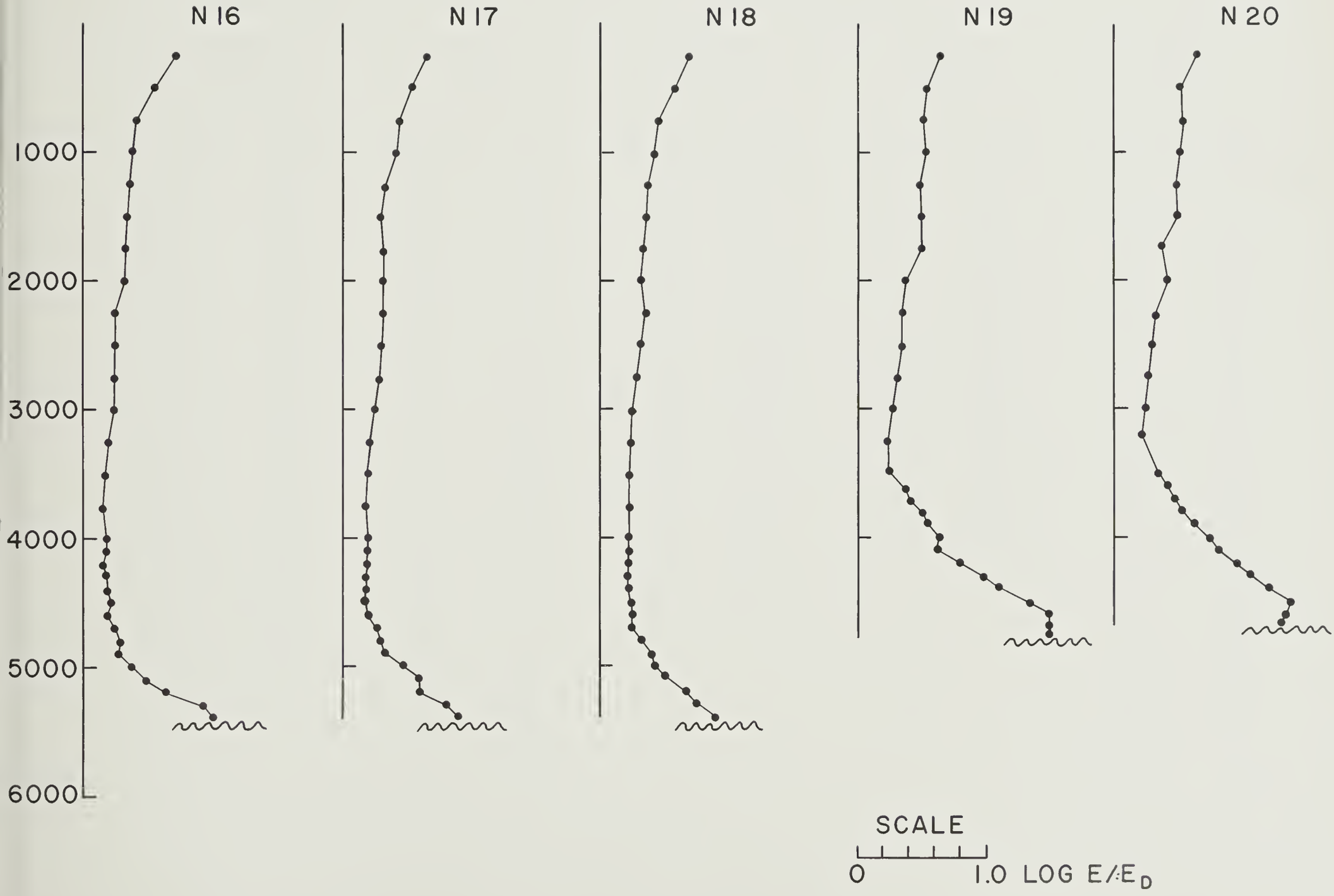
NEPHELOMETER PROFILES

N 11		N 12		N 13		N 14		N 15	
31°19'N		31°00'N		31°02'N		31°01'N		31°02'N	
74°10'W		71°58'W		71°59'W		72°01'W		72°01'W	
4895 m		5404 m		5404 m		5404 m		5404 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.69	250	.68	250	.64	250	.68	250	.61
500	.55	500	.60	500	.62	500	.58	500	.56
750	.51	750	.44	750	.45	750	.47	750	.43
1000	.49	1000	.41	1000	.40	1000	.44	1000	.41
1250	.45	1250	.35	1250	.35	1250	.37	1250	.34
1500	.46	1500	.35	1500	.37	1500	.35	1500	.30
1750	.40	1750	.37	1750	.34	1750	.35	1750	.31
2000	.35	2000	.34	2000	.35	2000	.36	2000	.33
2250	.33	2250	.30	2250	.33	2250	.33	2250	.29
2500	.31	2500	.26	2500	.26	2500	.28	2500	.25
2750	.33	2750	.25	2750	.26	2750	.27	2750	.25
3000	.29	3000	.25	3000	.25	3000	.25	3000	.23
3250	.25	3250	.24	3250	.24	3250	.24	3250	.21
3500	.25	3500	.21	3500	.21	3500	.21	3500	.19
3750	.36	3750	.21	3750	.20	3750	.21	3750	.19
4000	.61	4000	.20	4000	.20	4000	.21	4000	.21
4100	.55	4100	.19	4100	.23	4100	.23	4100	.22
4200	.61	4200	.23	4200	.19	4200	.23	4200	.19
4300	.69	4300	.21	4300	.21	4300	.24	4300	.18
4400	.89	4400	.20	4400	.20	4400	.25	4400	.19
4500	.97	4500	.21	4500	.20	4500	.28	4500	.21
4600	1.29	4600	.22	4600	.23	4600	.25	4600	.18
4700	1.35	4700	.24	4700	.31	4700	.26	4700	.17
4800	1.33	4800	.29	4800	.35	4800	.36	4800	.21
4895	1.30	4900	.30	4900	.40	4900	.40	4900	.24
		5000	.44	5000	.60	5000	.40	5000	.41
		5100	.53	5100	.58	5100	.53	5100	.45
		5200	.73	5200	.59	5200	.69	5200	.60
		5300	1.02	5300	.66	5300	1.03	5300	.92
		5404	1.14	5404	1.03	5404	1.01	5404	.93


N 11
N 12
N 13
N 14
N 15
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

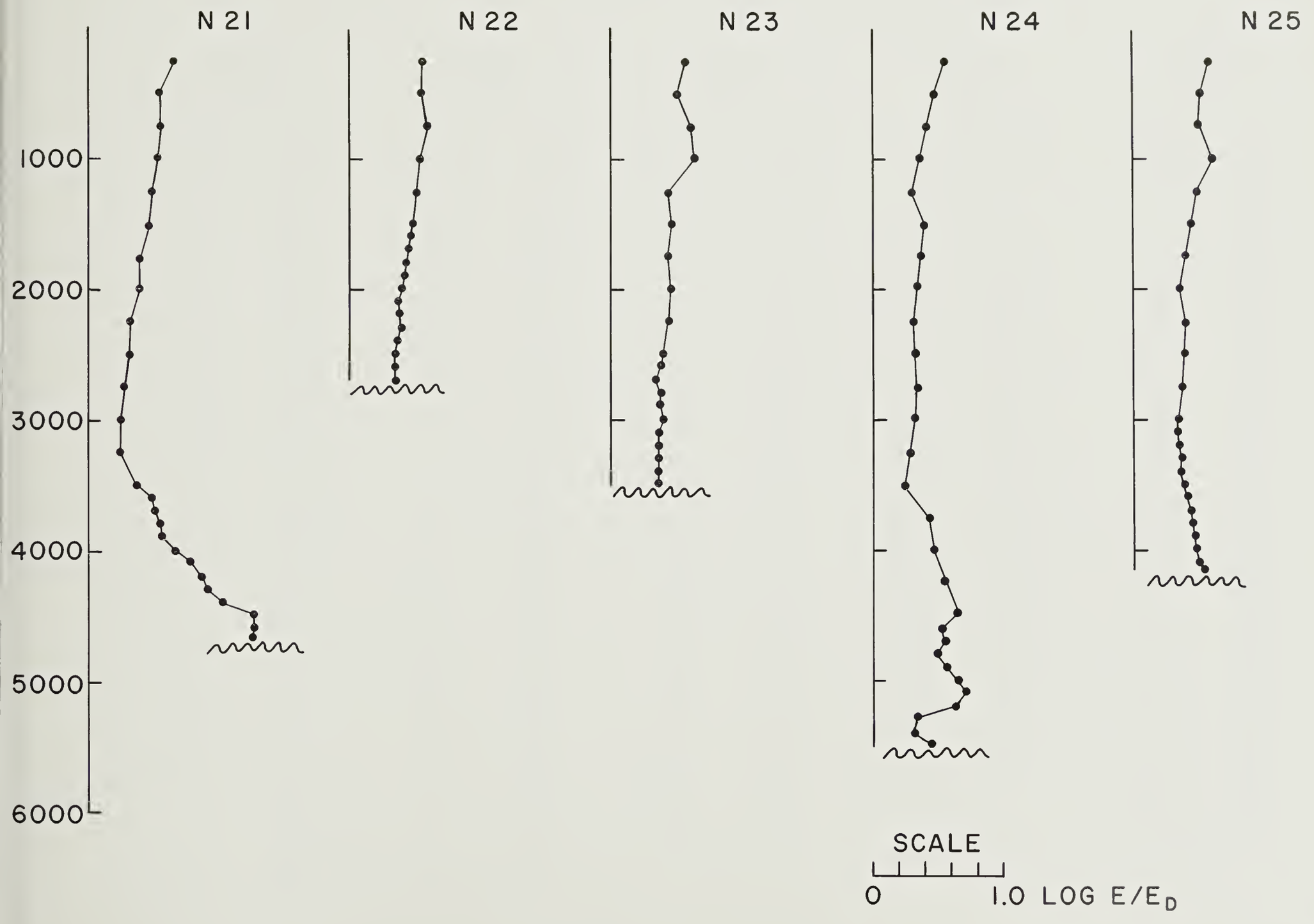
NEPHELOMETER PROFILES

N 16		N 17		N 18		N 19		N 20	
31°02'N 71°58'W 5404 m		31°01'N 72°01'W 5404 m		31°00'N 72°01'W 5404 m		30°23'N 73°35'W 4750 m		30°22'N 73°35'W 4658 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.72	250	.67	250	.70	250	.66	250	.63
500	.54	500	.55	500	.59	500	.55	500	.52
750	.42	750	.46	750	.47	750	.52	750	.53
1000	.39	1000	.42	1000	.42	1000	.56	1000	.51
1250	.38	1250	.36	1250	.39	1250	.50	1250	.48
1500	.34	1500	.30	1500	.38	1500	.50	1500	.50
1750	.33	1750	.32	1750	.35	1750	.51	1750	.38
2000	.31	2000	.32	2000	.33	2000	.39	2000	.42
2250	.25	2250	.32	2250	.35	2250	.35	2250	.31
2500	.26	2500	.30	2500	.32	2500	.36	2500	.29
2750	.23	2750	.29	2750	.29	2750	.31	2750	.26
3000	.23	3000	.26	3000	.24	3000	.28	3000	.23
3250	.19	3250	.21	3250	.25	3250	.24	3250	.21
3500	.15	3500	.20	3500	.22	3500	.25	3500	.36
3750	.15	3750	.19	3750	.22	3600	.39	3600	.42
4000	.18	4000	.20	4000	.22	3700	.41	3700	.48
4100	.18	4100	.20	4100	.21	3800	.52	3800	.52
4200	.16	4200	.19	4200	.22	3900	.55	3900	.62
4300	.18	4300	.18	4300	.22	4000	.64	4000	.74
4400	.19	4400	.19	4400	.21	4100	.61	4100	.80
4500	.21	4500	.18	4500	.25	4200	.80	4200	.95
4600	.18	4600	.20	4600	.26	4300	.99	4300	1.06
4700	.24	4700	.27	4700	.25	4400	1.10	4400	1.20
4800	.29	4800	.29	4800	.32	4500	1.34	4500	1.38
4900	.28	4900	.32	4900	.41	4600	1.50	4600	1.32
5000	.39	5000	.49	5000	.42	4700	1.50	4658	1.30
5100	.50	5100	.60	5100	.51	4750	1.50		
5200	.65	5200	.61	5200	.69				
5300	.95	5300	.81	5300	.78				
5405	1.01	5404	.91	5404	.91				


N 16
N 17
N 18
N 19
N 20
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 21		N 22		N 23		N 24		N 25	
30°22'N 73°37'W 4660 m		19°10'N 75°01'W 2710 m		19°35'N 74°30'W 3490 m		22°01'N 70°46'W 5492 m		20°10'N 70°44'W 4163 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.65	250	.56	250	.57	250	.55	250	.58
500	.53	500	.52	500	.50	500	.47	500	.51
750	.55	750	.59	750	.61	750	.41	750	.50
1000	.53	1000	.52	1000	.63	1000	.37	1000	.61
1250	.49	1250	.50	1250	.43	1250	.30	1250	.49
1500	.48	1500	.49	1500	.47	1500	.41	1500	.43
1750	.40	1600	.47	1750	.43	1750	.38	1750	.40
2000	.40	1700	.45	2000	.46	2000	.34	2000	.36
2250	.31	1800	.42	2250	.43	2250	.31	2250	.40
2500	.31	1900	.41	2500	.39	2500	.31	2500	.39
2750	.28	2000	.41	2600	.38	2750	.35	2750	.37
3000	.25	2100	.38	2700	.35	3000	.32	3000	.33
3250	.26	2200	.39	2800	.38	3250	.28	3100	.32
3500	.39	2300	.40	2900	.38	3500	.26	3200	.35
3600	.49	2400	.36	3000	.40	3750	.45	3300	.37
3700	.51	2500	.34	3100	.37	4000	.47	3400	.37
3800	.54	2600	.33	3200	.38	4250	.58	3500	.39
3900	.57	2710	.34	3300	.38	4500	.64	3600	.41
4000	.67			3400	.38	4600	.51	3700	.43
4100	.78			3490	.38	4700	.53	3800	.44
4200	.87					4800	.50	3900	.47
4300	.91					4900	.57	4000	.48
4400	1.02					5000	.66	4100	.50
4500	1.27					5100	.71	4160	.53
4600	1.28					5200	.65		
4660	1.28					5300	.35		
						5400	.33		
						5490	.44		


N 21
N 22
N 23
N 24
N 25
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E_D

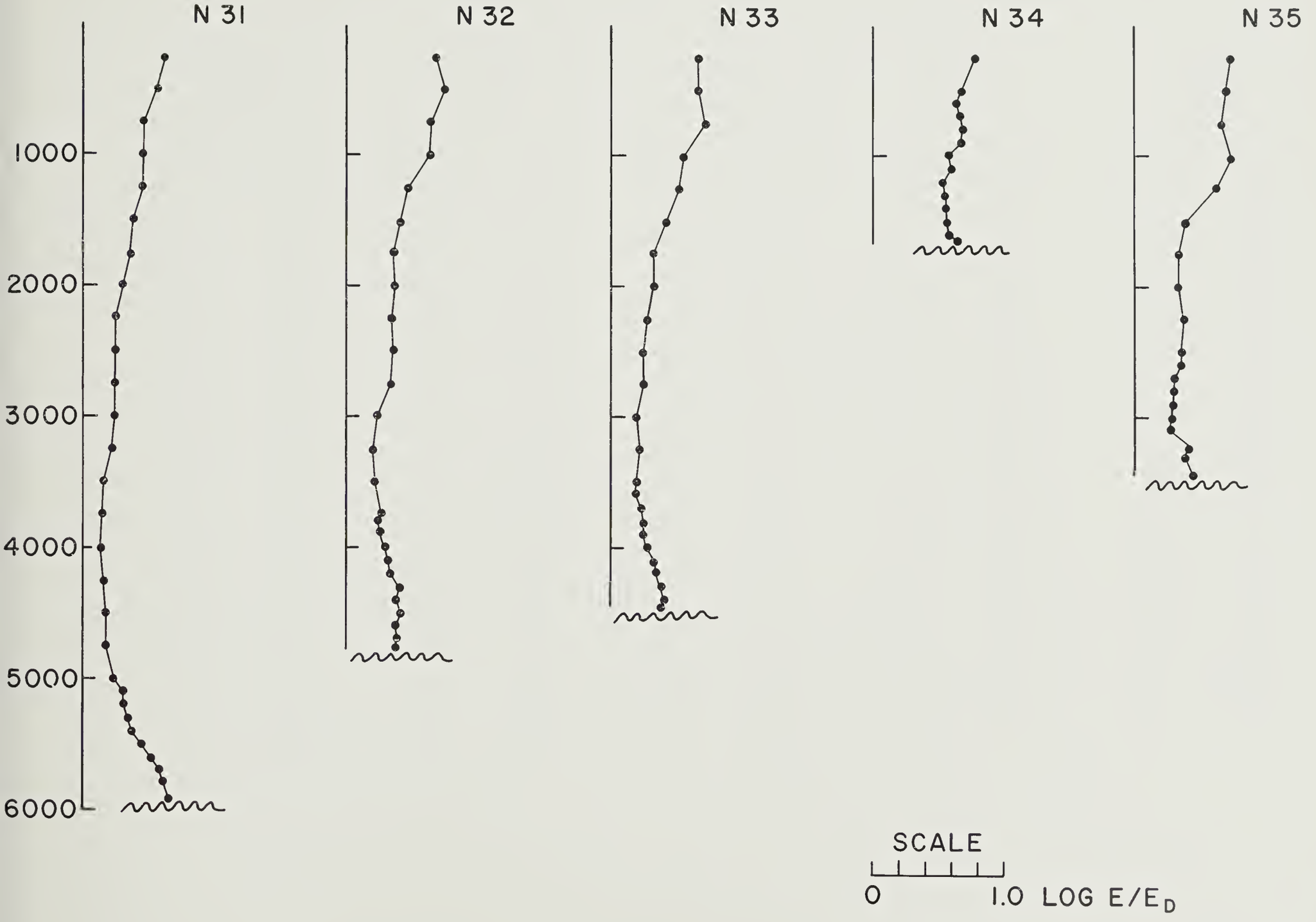
NEPHELOMETER PROFILES

N 26		N 27		N 28		N 29		N 30	
19°12'N		18°43'N		18°45'N		18°19'N		18°34'N	
67°12'W		63°47'W		61°41'W		60°28'W		60°51'W	
5779 m		5082 m		6137 m		6295 m		6311 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.55	250	.55	250	.53	250	.54	250	.53
500	.53	500	.60	500	.51	500	.51	500	.48
750	.44	750	.56	750	.50	750	.41	750	.42
1000	.53	1000	.47	1000	.43	1000	.39	1000	.36
1250	.45	1250	.40	1250	.42	1250	.32	1250	.34
1500	.40	1500	.36	1500	.39	1500	.26	1500	.26
1750	.37	1750	.34	1750	.34	1750	.26	1750	.26
2000	.33	2000	.30	2000	.33	2000	.24	2000	.23
2250	.32	2250	.33	2250	.29	2250	.18	2250	.23
2500	.32	2500	.29	2500	.25	2500	.16	2500	.22
2750	.29	2750	.27	2750	.22	2750	.16	2750	.23
3000	.29	3000	.28	3000	.24	3000	.13	3000	.23
3250	.29	3250	.26	3250	.25	3250	.13	3250	.24
3500	.33	3500	.29	3500	.28	3500	.10	3500	.23
3750	.36	3750	.30	3750	.32	3750	.13	3750	.21
4000	.41	4000	.30	4000	.31	4000	.16	4000	.20
4250	.41	4100	.29	4250	.33	4250	.07	4250	.18
4500	.44	4200	.32	4500	.37	4500	.08	4500	.29
4750	.51	4300	.31	4750	.45	4750	.35	4750	.37
4800	.52	4400	.35	5000	.55	5000	.25	5000	.31
4900	.59	4500	.37	5100	.56	5250	.24	5100	.29
5000	.60	4600	.39	5200	.51	5300	.25	5200	.25
5100	.65	4700	.39	5300	.33	5400	.29	5300	.26
5200	.67	4800	.41	5400	.24	5500	.27	5400	.27
5300	.73	4900	.43	5500	.25	5600	.29	5500	.27
5400	.72	5000	.44	5600	.25	5700	.31	5600	.26
5500	.75	5080	.46	5700	.24	5800	.33	5700	.26
5600	.76			5800	.24	5900	.32	5800	.27
5700	.50			5900	.27	6000	.34	5900	.31
5770	.45			6000	.38	6100	.33	6000	.33
				6137	.44	6200	.39	6100	.37
						6295	.45	6200	.38
								6311	.38


N 26
N 27
N 28
N 29
N 30
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

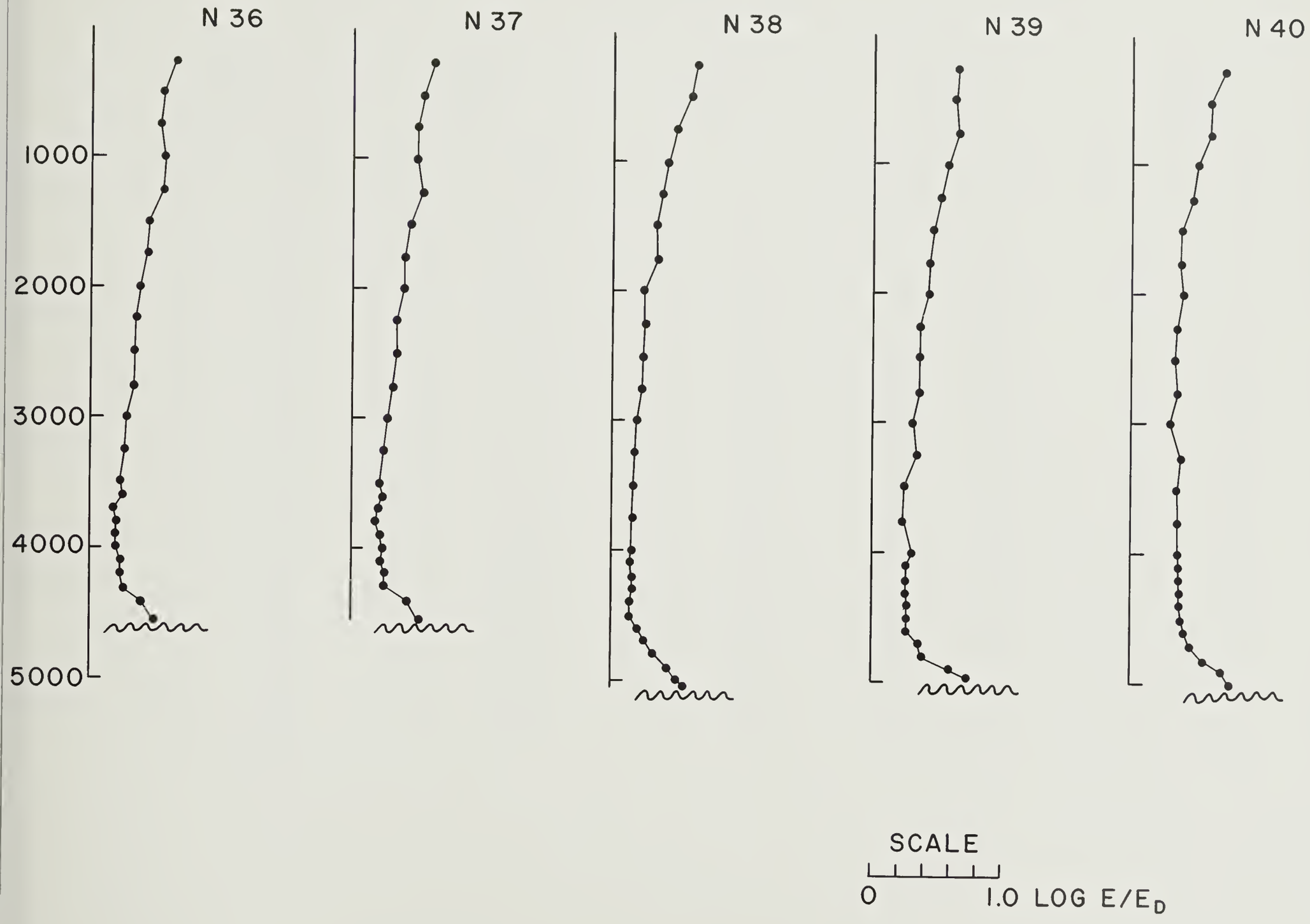
NEPHELOMETER PROFILES

N 31		N 32		N 33		N 34		N 35	
16°47'N		13°09'N		12°13'N		11°02'N		09°16'N	
59°01'W		57°34'W		57°27'W		59°35'W		55°01'W	
5932 m		4796 m		4441 m		1669 m		3432 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.61	250	.69	250	.68	250	.78	250	.72
500	.56	500	.75	500	.68	500	.69	500	.70
750	.48	750	.63	750	.72	600	.64	750	.67
1000	.47	1000	.62	1000	.56	700	.68	1000	.73
1250	.44	1250	.46	1250	.52	800	.70	1250	.61
1500	.38	1500	.40	1500	.42	900	.68	1500	.39
1750	.34	1750	.36	1750	.32	1000	.59	1750	.32
2000	.30	2000	.37	2000	.34	1100	.61	2000	.33
2250	.24	2250	.34	2250	.29	1200	.53	2250	.39
2500	.24	2500	.35	2500	.25	1300	.57	2500	.34
2750	.23	2750	.33	2750	.24	1400	.58	2600	.33
3000	.26	3000	.25	3000	.20	1500	.58	2700	.30
3250	.21	3250	.20	3250	.22	1600	.60	2800	.30
3500	.17	3500	.21	3500	.20	1669	.64	2900	.29
3750	.13	3750	.27	3600	.18			3000	.28
4000	.13	3800	.26	3700	.24			3100	.27
4250	.15	3900	.25	3800	.26			3200	.42
4500	.19	4000	.30	3900	.26			3300	.39
4750	.18	4100	.31	4000	.28			3432	.43
5000	.23	4200	.34	4100	.34				
5100	.30	4300	.41	4200	.35				
5200	.31	4400	.39	4300	.38				
5300	.34	4500	.41	4400	.41				
5400	.37	4600	.38	4441	.39				
5500	.43	4700	.39						
5600	.51	4796	.39						
5700	.59								
5800	.61								
5932	.64								


N 31
N 32
N 33
N 34
N 35
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

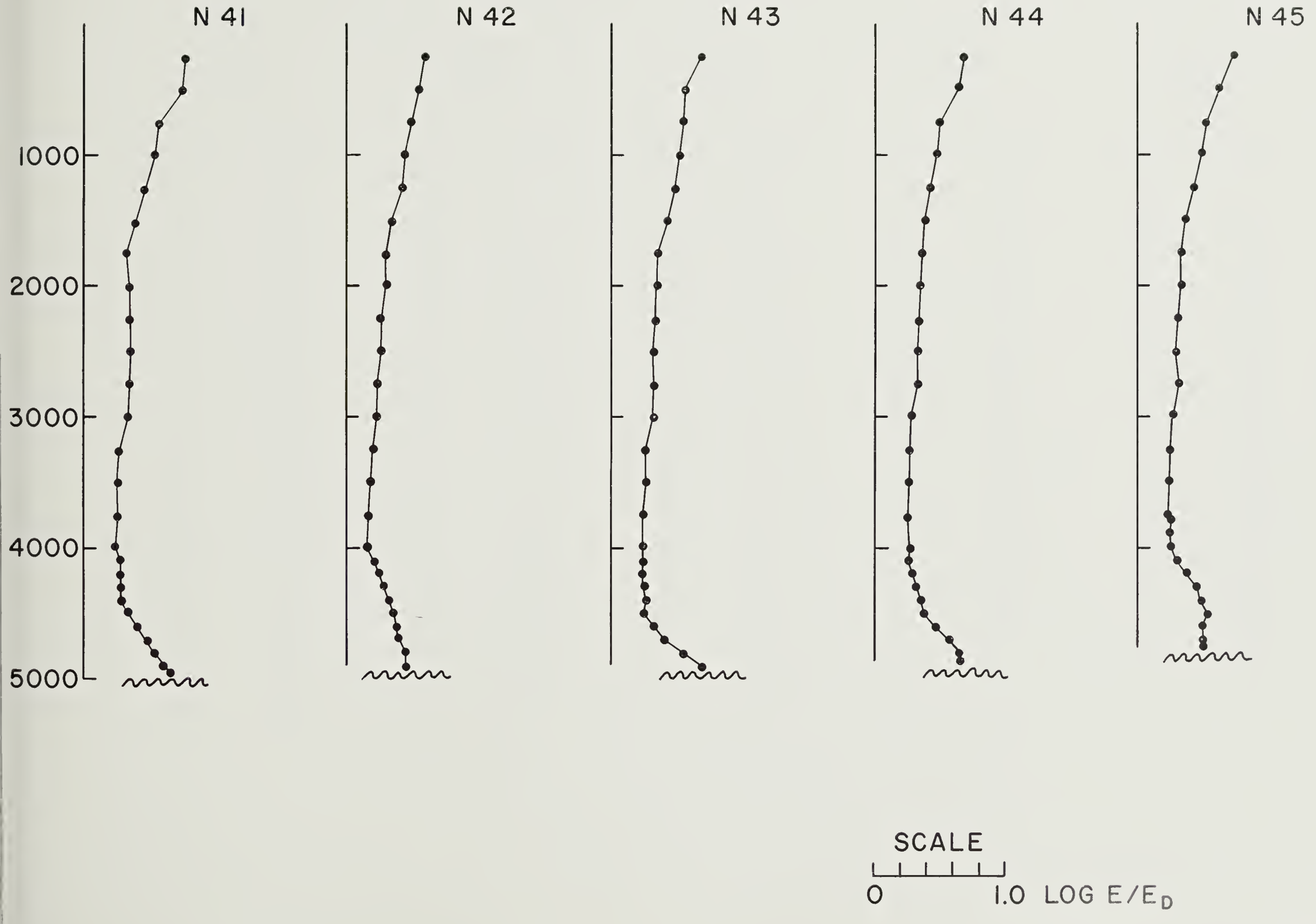
NEPHELOMETER PROFILES

N 36		N 37		N 38		N 39		N 40	
10°40'N 54°18'W 4532 m		10°38'N 54°22'W 4534 m		12°31'N 53°08'W 5086 m		11°36'N 52°11'W 4992 m		11°40'N 50°49'W 5009 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.63	250	.62	250	.67	250	.64	250	.70
500	.56	500	.56	500	.60	500	.61	500	.60
750	.52	750	.50	750	.50	750	.63	750	.58
1000	.58	1000	.50	1000	.44	1000	.58	1000	.50
1250	.55	1250	.53	1250	.38	1250	.51	1250	.45
1500	.45	1500	.44	1500	.33	1500	.46	1500	.38
1750	.42	1750	.39	1750	.35	1750	.42	1750	.34
2000	.38	2000	.40	2000	.25	2000	.41	2000	.38
2250	.35	2250	.34	2250	.26	2250	.37	2250	.32
2500	.36	2500	.35	2500	.26	2500	.36	2500	.31
2750	.33	2750	.31	2750	.22	2750	.37	2750	.35
3000	.29	3000	.28	3000	.19	3000	.30	3000	.29
3250	.28	3250	.25	3250	.18	3250	.33	3250	.28
3500	.23	3500	.23	3500	.18	3500	.23	3500	.25
3600	.26	3600	.25	3750	.16	3750	.23	3750	.24
3700	.18	3700	.20	4000	.17	4000	.30	4000	.24
3800	.21	3800	.19	4100	.15	4100	.27	4100	.26
3900	.20	3900	.22	4200	.17	4200	.27	4200	.26
4000	.21	4000	.23	4300	.17	4300	.27	4300	.27
4100	.23	4100	.23	4400	.15	4400	.28	4400	.26
4200	.23	4200	.27	4500	.16	4500	.28	4500	.28
4300	.26	4300	.26	4600	.21	4600	.28	4600	.40
4400	.40	4400	.43	4700	.26	4700	.35	4700	.46
4532	.50	4534	.51	4800	.32	4800	.38	4800	.54
				4900	.43	4900	.60	4900	.69
				5000	.50	4992	.72	5009	.74
				5086	.56				


N 36
N 37
N 38
N 39
N 40
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

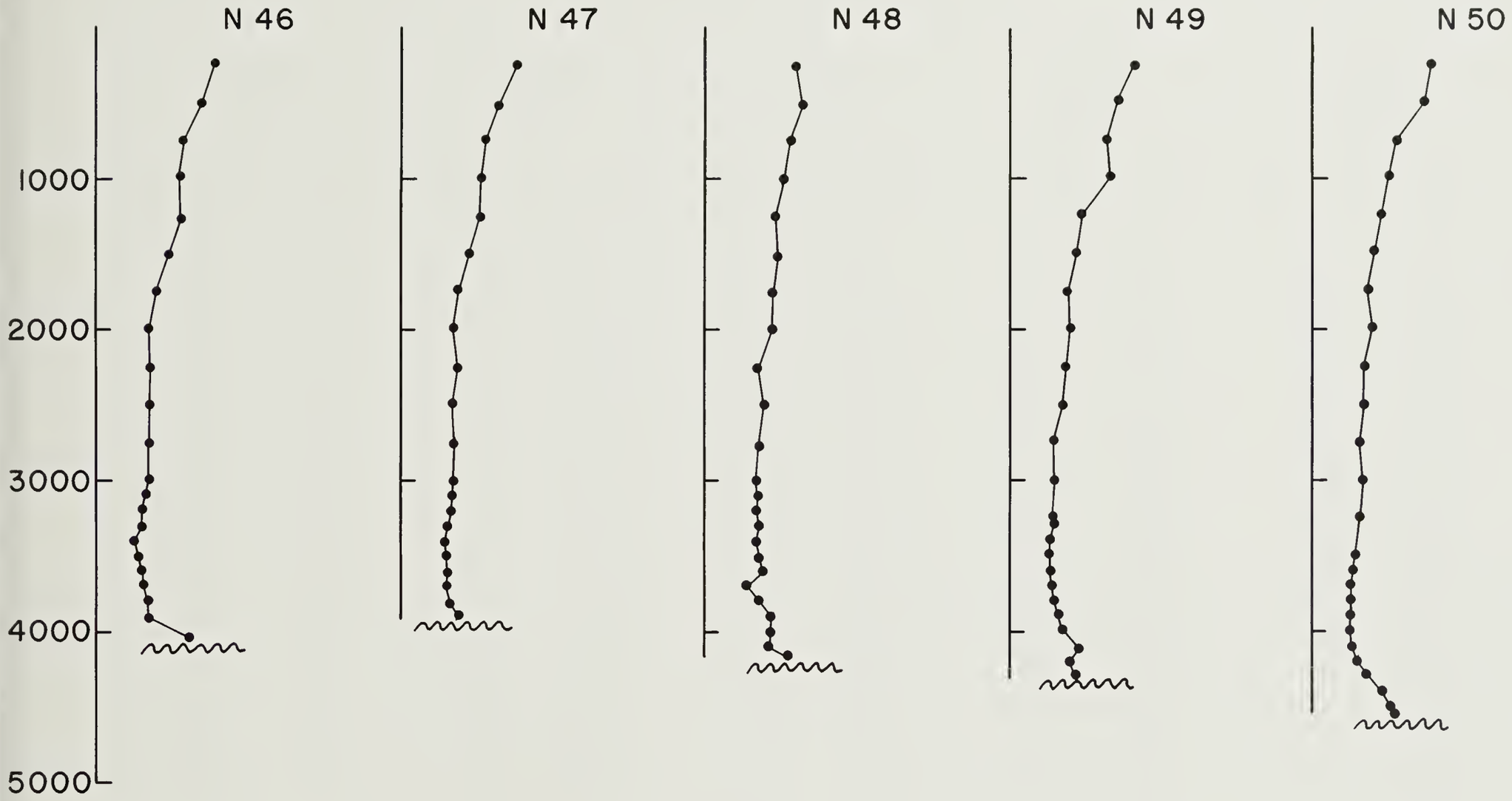
NEPHELOMETER PROFILES

N 41		N 42		N 43		N 44		N 45	
11°24'N 50°50'W 4982 m		14°31'N 49°59'W 4929 m		10°31'N 49°14'W 4915 m		10°31'N 47°18'W 4872 m		10°23'N 45°19'W 4774 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.79	250	.58	250	.70	250	.70	250	.73
500	.76	500	.54	500	.58	500	.67	500	.63
750	.59	750	.49	750	.57	750	.51	750	.54
1000	.56	1000	.44	1000	.52	1000	.49	1000	.50
1250	.46	1250	.42	1250	.50	1250	.42	1250	.44
1500	.40	1500	.33	1500	.44	1500	.40	1500	.38
1750	.32	1750	.29	1750	.36	1750	.38	1750	.33
2000	.36	2000	.29	2000	.36	2000	.38	2000	.35
2250	.35	2250	.26	2250	.34	2250	.35	2250	.31
2500	.37	2500	.26	2500	.32	2500	.33	2500	.30
2750	.37	2750	.22	2750	.33	2750	.33	2750	.32
3000	.33	3000	.23	3000	.32	3000	.29	3000	.29
3250	.29	3250	.19	3250	.28	3250	.28	3250	.26
3500	.28	3500	.19	3500	.28	3500	.28	3500	.25
3750	.28	3750	.16	3750	.25	3750	.27	3750	.24
4000	.27	4000	.15	4000	.25	4000	.28	3800	.26
4100	.28	4100	.21	4100	.24	4100	.28	3900	.27
4200	.29	4200	.24	4200	.26	4200	.30	4000	.28
4300	.28	4300	.28	4300	.25	4300	.32	4100	.31
4400	.29	4400	.31	4400	.28	4400	.37	4200	.39
4500	.33	4500	.35	4500	.27	4500	.39	4300	.47
4600	.41	4600	.39	4600	.32	4600	.46	4400	.49
4700	.52	4700	.40	4700	.41	4700	.57	4500	.53
4800	.54	4800	.44	4800	.57	4800	.63	4600	.50
4900	.61	4929	.47	4915	.70	4872	.65	4700	.50
4982	.68							4774	.51


N 41
N 42
N 43
N 44
N 45
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

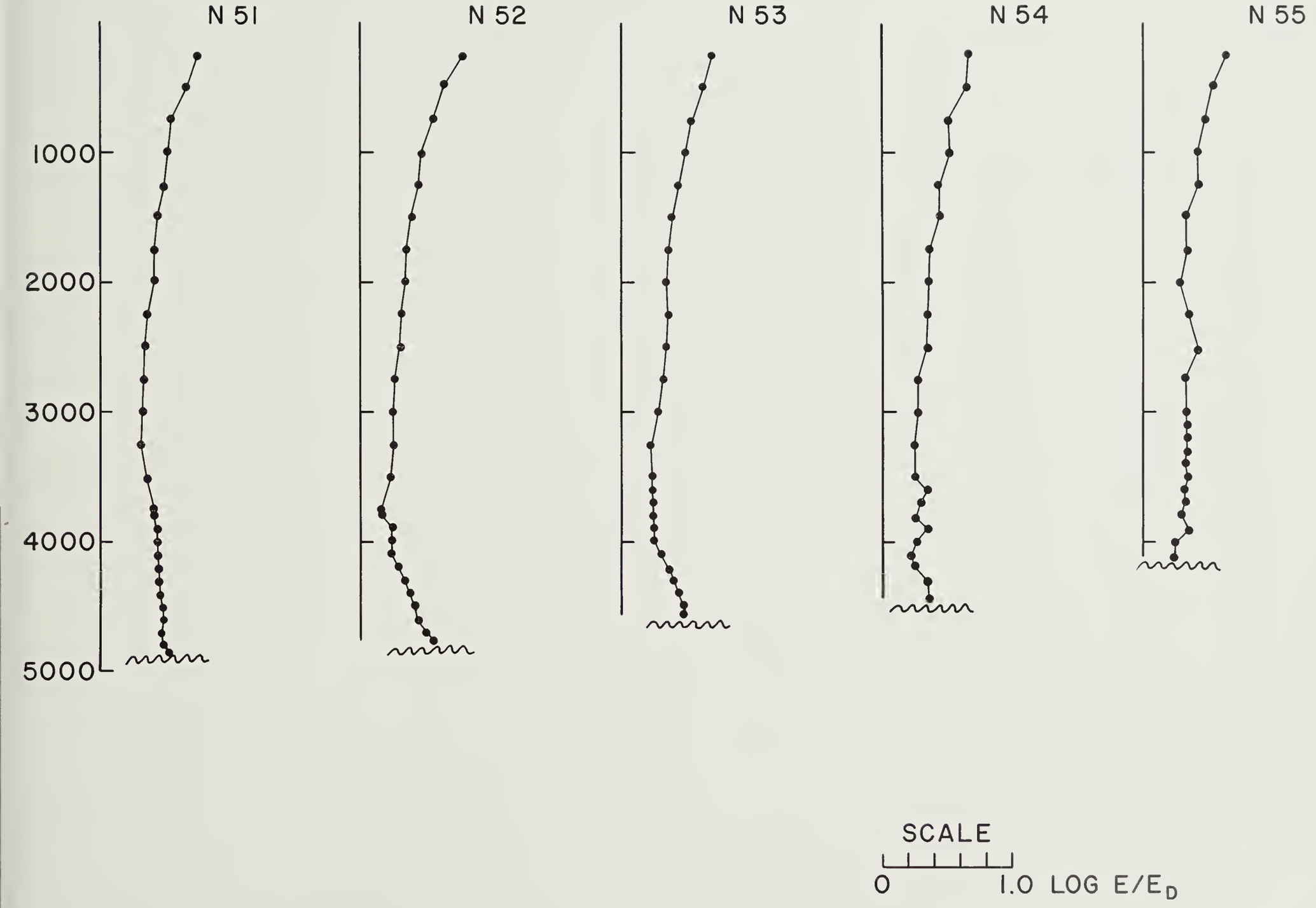
NEPHELOMETER PROFILES

N 46		N 47		N 48		N 49		N 50	
05°35'N 45°28'W 4025 m		05°42'N 45°09'W 3899 m		01°41'N 43°41'W 4191 m		03°08'N 42°53'W 4306 m		06°41'N 43°27'W 4566 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.79	250	.78	250	.60	250	.82	250	.80
500	.70	500	.65	500	.65	500	.71	500	.75
750	.58	750	.57	750	.57	750	.56	750	.55
1000	.52	1000	.52	1000	.52	1000	.58	1000	.50
1250	.54	1250	.52	1250	.47	1250	.49	1250	.46
1500	.48	1500	.45	1500	.50	1500	.43	1500	.41
1750	.38	1750	.38	1750	.44	1750	.39	1750	.37
2000	.35	2000	.33	2000	.46	2000	.41	2000	.40
2250	.34	2250	.38	2250	.37	2250	.38	2250	.34
2500	.33	2500	.33	2500	.40	2500	.36	2500	.34
2750	.33	2750	.36	2750	.37	2750	.29	2750	.31
3000	.34	3000	.33	3000	.36	3000	.30	3000	.33
3100	.31	3100	.33	3100	.38	3250	.29	3250	.32
3200	.30	3200	.32	3200	.36	3300	.30	3500	.29
3300	.30	3300	.31	3300	.37	3400	.28	3600	.28
3400	.27	3400	.30	3400	.35	3500	.27	3700	.27
3500	.29	3500	.30	3500	.39	3600	.27	3800	.27
3600	.30	3600	.31	3600	.40	3700	.29	3900	.25
3700	.30	3700	.30	3700	.30	3800	.30	4000	.25
3800	.33	3800	.33	3800	.39	3900	.32	4100	.27
3900	.34	3899	.40	3900	.46	4000	.36	4200	.30
4025	.61			4000	.45	4100	.48	4300	.34
				4100	.43	4200	.40	4400	.46
				4191	.55	4306	.44	4500	.51
								4566	.54


N 46
N 47
N 48
N 49
N 50
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

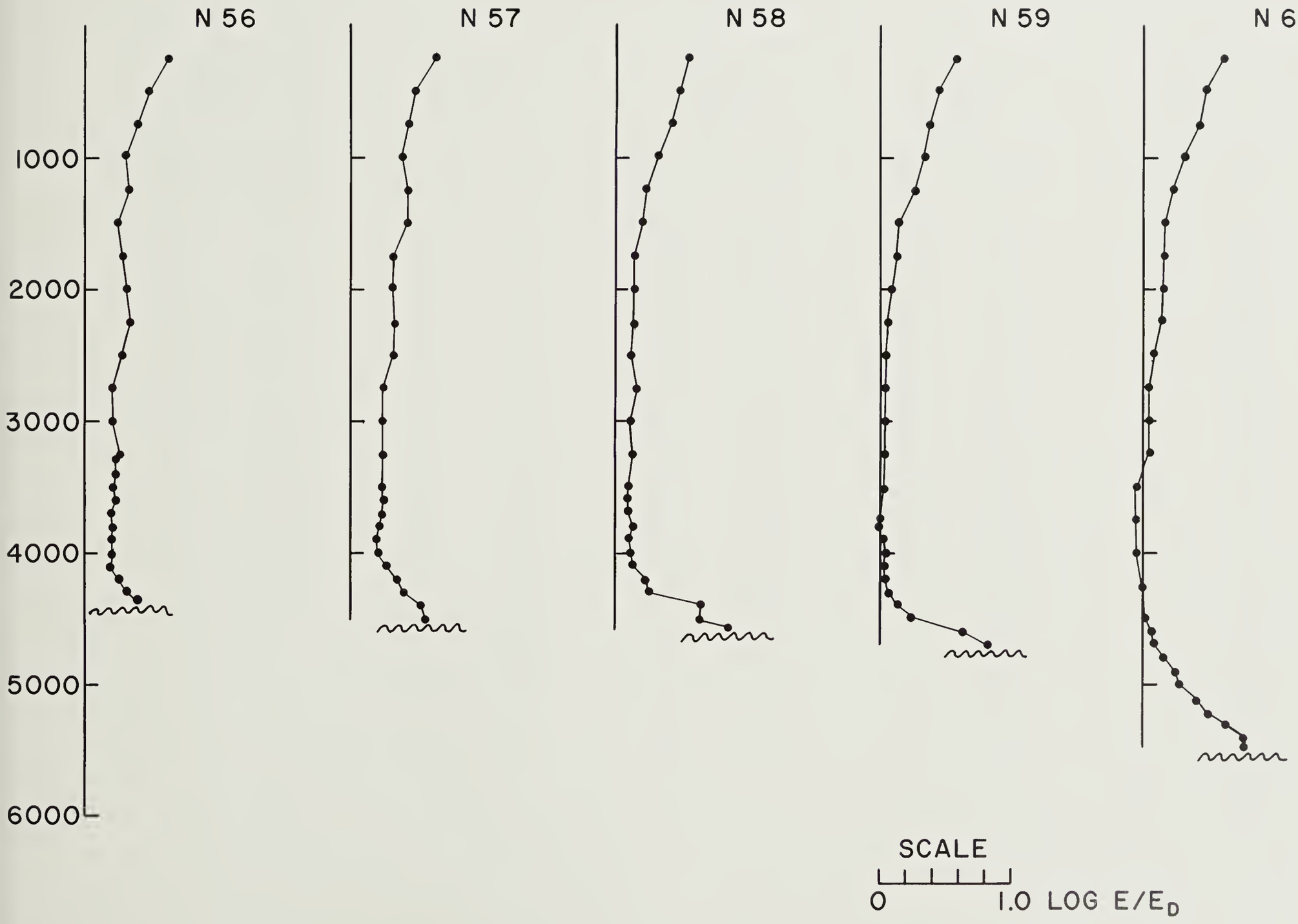
NEPHELOMETER PROFILES

N 51		N 52		N 53		N 54		N 55	
08°19'N 41°35'W 4842 m		05°47'N 40°25'W 4764 m		03°19'N 38°58'W 4565 m		00°45'N 36°38'W 4426 m		05°00'S 34°01'W 4116 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.76	250	.81	250	.70	250	.68	250	.65
500	.67	500	.63	500	.65	500	.65	500	.53
750	.55	750	.57	750	.56	750	.51	750	.49
1000	.53	1000	.48	1000	.50	1000	.52	1000	.43
1250	.50	1250	.45	1250	.45	1250	.46	1250	.43
1500	.45	1500	.40	1500	.39	1500	.44	1500	.35
1750	.41	1750	.36	1750	.38	1750	.38	1750	.36
2000	.41	2000	.35	2000	.36	2000	.38	2000	.30
2250	.38	2250	.31	2250	.38	2250	.37	2250	.39
2500	.36	2500	.30	2500	.36	2500	.37	2500	.43
2750	.34	2750	.27	2750	.32	2750	.28	2750	.35
3000	.33	3000	.26	3000	.29	3000	.29	3000	.35
3250	.31	3250	.26	3250	.23	3250	.26	3100	.33
3500	.38	3500	.23	3500	.23	3500	.28	3200	.34
3750	.42	3750	.18	3600	.23	3600	.34	3300	.34
3800	.42	3800	.18	3700	.26	3700	.30	3400	.33
3900	.44	3900	.23	3800	.24	3800	.28	3500	.35
4000	.46	4000	.22	3900	.26	3900	.36	3600	.33
4100	.46	4100	.26	4000	.27	4000	.27	3700	.33
4200	.48	4200	.30	4100	.30	4100	.23	3800	.30
4300	.47	4300	.33	4200	.39	4200	.25	3900	.37
4400	.48	4400	.38	4300	.41	4300	.36	4000	.26
4500	.50	4500	.42	4400	.45	4426	.37	4116	.24
4600	.50	4600	.45	4500	.49				
4700	.49	4700	.51	4565	.48				
4800	.50	4764	.58						
4842	.54								


N 51
N 52
N 53
N 54
N 55
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

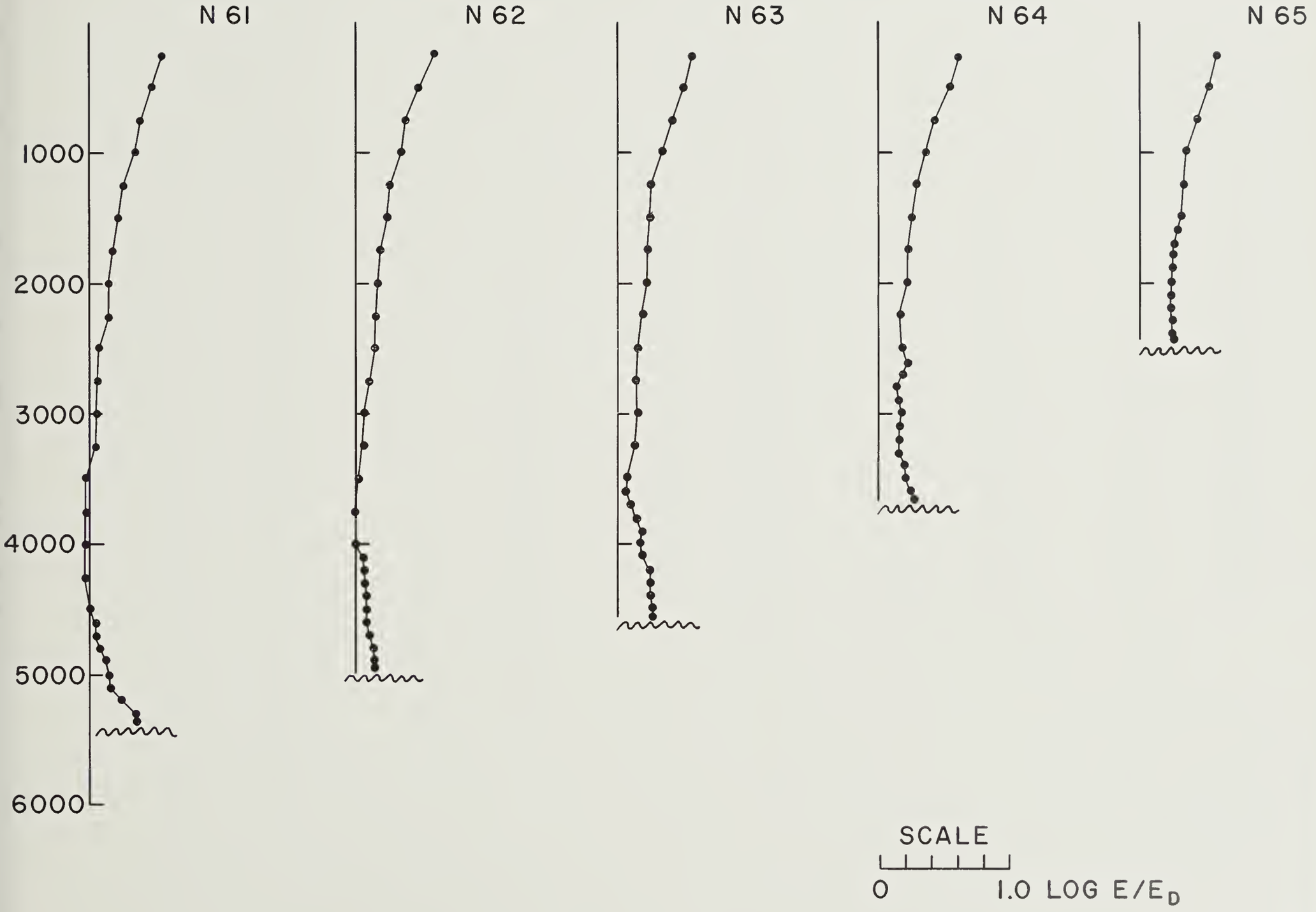
NEPHELOMETER PROFILES

N 56		N 57		N 58		N 59		N 60	
06°35'S 33°34'W 4366 m		12°57'S 33°58'W 4502 m		14°53'S 33°44'W 4572 m		15°54'S 31°52'W 4713 m		15°23'S 28°28'W 5498 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.65	250	.65	250	.57	250	.58	250	.61
500	.50	500	.50	500	.50	500	.46	500	.47
750	.41	750	.44	750	.43	750	.39	750	.42
1000	.31	1000	.39	1000	.32	1000	.34	1000	.30
1250	.33	1250	.44	1250	.24	1250	.28	1250	.21
1500	.27	1500	.43	1500	.21	1500	.15	1500	.16
1750	.30	1750	.32	1750	.16	1750	.12	1750	.15
2000	.32	2000	.32	2000	.16	2000	.09	2000	.13
2250	.36	2250	.33	2250	.14	2250	.07	2250	.12
2500	.29	2500	.32	2500	.12	2500	.06	2500	.08
2750	.21	2750	.27	2750	.19	2750	.02	2750	.03
3000	.22	3000	.27	3000	.11	3000	.04	3000	.04
3250	.27	3250	.25	3250	.14	3250	.03	3250	.03
3300	.25	3500	.25	3500	.10	3500	.02	3500	-.04
3400	.22	3600	.25	3600	.09	3750	.00	3750	-.03
3500	.21	3700	.24	3700	.10	3800	-.01	4000	-.04
3600	.22	3800	.21	3800	.13	3900	.02	4250	.00
3700	.20	3900	.20	3900	.11	4000	.04	4500	.01
3800	.21	4000	.21	4000	.12	4100	.04	4600	.06
3900	.20	4100	.28	4100	.14	4200	.04	4700	.08
4000	.21	4200	.36	4200	.23	4300	.08	4800	.15
4100	.20	4300	.40	4300	.26	4400	.13	4900	.24
4200	.27	4400	.56	4400	.64	4500	.23	5000	.27
4300	.31	4502	.59	4500	.62	4600	.65	5100	.40
4366	.40			4572	.76	4713	.83	5200	.48
								5300	.61
								5400	.77
								5498	.78


N 56
N 57
N 58
N 59
N 60
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 61		N 62		N 63		N 64		N 65	
15°00'S		14°24'S		13°46'S		13°17'S		12°56'S	
25°15'W		21°27'W		18°36'W		16°16'W		14°15'W	
5353 m		4965 m		4574 m		3667 m		2471 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.56	250	.60	250	.59	250	.62	250	.60
500	.47	500	.48	500	.51	500	.54	500	.52
750	.39	750	.39	750	.41	750	.43	750	.44
1000	.35	1000	.35	1000	.33	1000	.36	1000	.38
1250	.25	1250	.27	1250	.27	1250	.30	1250	.34
1500	.21	1500	.23	1500	.24	1500	.27	1500	.31
1750	.17	1750	.19	1750	.22	1750	.22	1600	.29
2000	.15	2000	.17	2000	.22	2000	.21	1700	.27
2250	.13	2250	.15	2250	.19	2250	.17	1800	.27
2500	.07	2500	.14	2500	.16	2500	.19	1900	.26
2750	.06	2750	.10	2750	.16	2600	.22	2000	.25
3000	.06	3000	.05	3000	.15	2700	.19	2100	.25
3250	.04	3250	.04	3250	.12	2800	.14	2200	.25
3500	-.02	3500	.01	3500	.07	2900	.16	2300	.24
3750	-.01	3750	.01	3600	.07	3000	.18	2400	.26
4000	-.04	4000	.01	3700	.10	3100	.16	2471	.27
4250	-.03	4100	.04	3800	.12	3200	.16		
4500	.00	4200	.05	3900	.18	3300	.17		
4600	.03	4300	.07	4000	.17	3400	.20		
4700	.03	4400	.08	4100	.19	3500	.21		
4800	.08	4500	.08	4200	.23	3600	.23		
4900	.11	4600	.09	4300	.25	3667	.27		
5000	.14	4700	.10	4400	.24				
5100	.16	4800	.12	4500	.27				
5200	.22	4900	.12	4574	.26				
5300	.34	4965	.12						
5353	.37								


N 61
N 62
N 63
N 64
N 65
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 66

12°58'S
14°57'W
2951 m

Depth	Log E/E_D
250	.58
500	.51
750	.41
1000	.36
1250	.32
1500	.28
1750	.27
2000	.26
2100	.25
2200	.25
2300	.27
2400	.26
2500	.29
2600	.28
2700	.29
2800	.30
2900	.29
2951	.29

N 67

12°39'S
13°26'W
3395 m

Depth	Log E/E_D
250	.59
500	.51
750	.40
1000	.37
1250	.32
1500	.30
1750	.27
2000	.23
2250	.21
2500	.21
2600	.21
2700	.22
2800	.21
2900	.24
3000	.24
3100	.24
3200	.24
3300	.25
3395	.26

N 68

15°56'S
16°01'W
3571 m

Depth	Log E/E_D
250	.54
500	.56
750	.48
1000	.32
1250	.25
1500	.23
1750	.20
2000	.19
2250	.19
2500	.17
2600	.17
2700	.18
2800	.18
2900	.20
3000	.18
3100	.20
3200	.20
3300	.26
3400	.29
3500	.27
3571	.30

N 69

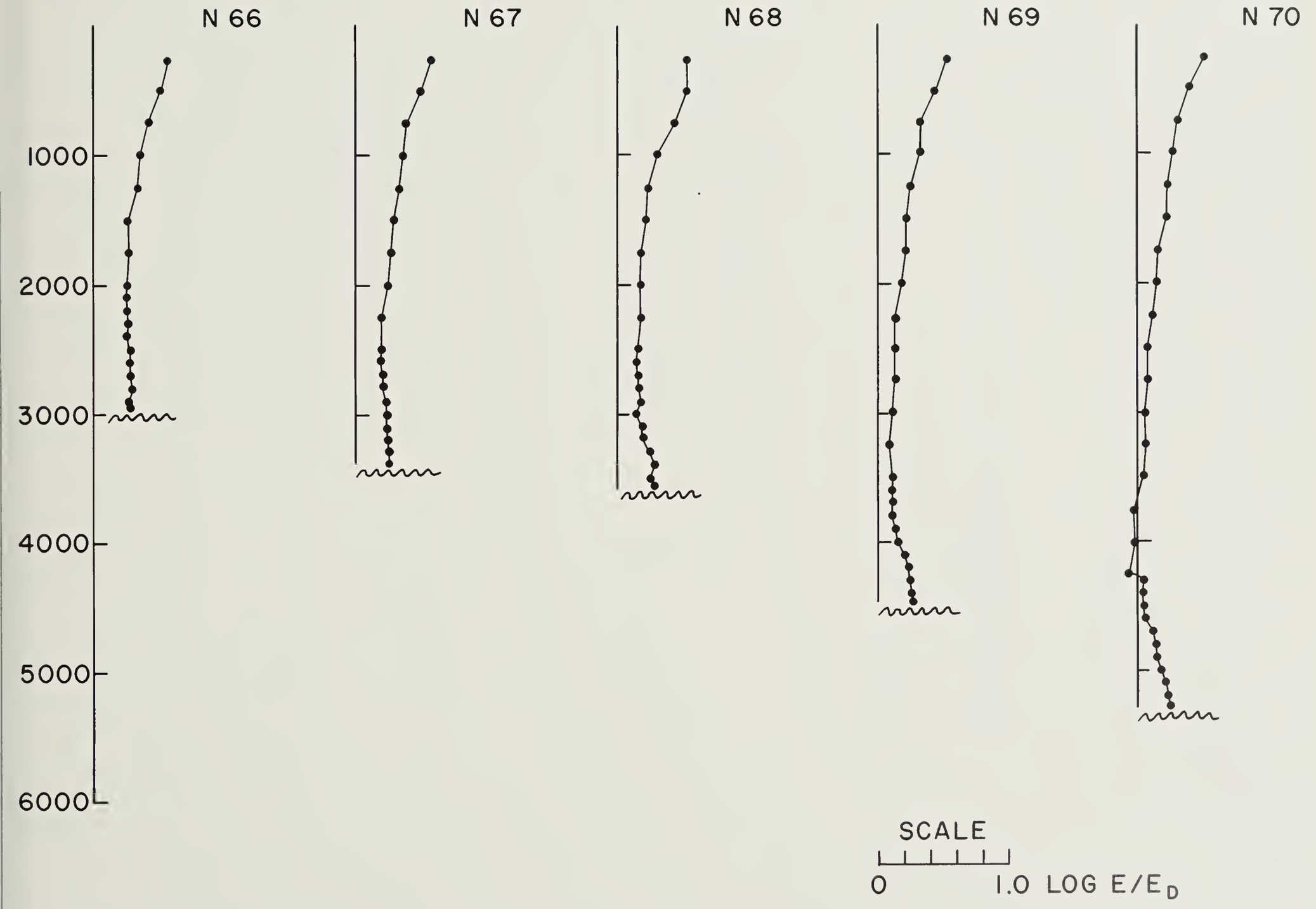
16°44'S
19°34'W
4480 m

Depth	Log E/E_D
250	.55
500	.47
750	.35
1000	.35
1250	.27
1500	.23
1750	.22
2000	.19
2250	.15
2500	.16
2750	.14
3000	.11
3250	.09
3500	.11
3600	.11
3700	.11
3800	.11
3900	.14
4000	.17
4100	.21
4200	.22
4300	.24
4400	.27
4480	.28

N 70

17°32'S
23°32'W
5315 m

Depth	Log E/E_D
250	.54
500	.41
750	.33
1000	.29
1250	.23
1500	.23
1750	.18
2000	.15
2250	.12
2500	.08
2750	.09
3000	.07
3250	.03
3500	.03
3750	-.02
4000	-.02
4250	-.07
4300	.04
4400	.03
4500	.06
4600	.06
4700	.12
4800	.14
4900	.16
5000	.18
5100	.21
5200	.22
5315	.23


N 66
N 67
N 68
N 69
N 70
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 71

18°03'S
26°30'W
5514 m

Depth	Log E/E_D
250	.58
500	.42
750	.35
1000	.27
1250	.25
1500	.23
1750	.19
2000	.13
2250	.13
2500	.12
2750	.10
3000	.09
3250	.07
3500	.06
3750	.05
4000	-.01
4250	-.01
4500	.06
4600	.07
4700	.07
4800	.09
4900	.16
5000	.19
5100	.22
5200	.27
5300	.35
5400	.50
5514	.53

N 72

18°50'S
32°01'W
4295 m

Depth	Log E/E_D
250	.51
500	.45
750	.42
1000	.37
1250	.35
1500	.32
1750	.28
2000	.26
2250	.21
2500	.23
2750	.22
3000	.19
3250	.09
3300	.06
3400	.05
3500	.05
3600	.24
3700	.23
3800	.33
3900	.17
4000	.28
4100	.44
4200	.58
4295	.61

N 73

26°42'S
43°20'W
2422 m

Depth	Log E/E_D
250	.56
500	.48
1000	.37
1250	.34
1500	.31
1600	.28
1700	.27
1900	.25
2000	.26
2100	.22
2200	.23
2422	.28

N 74

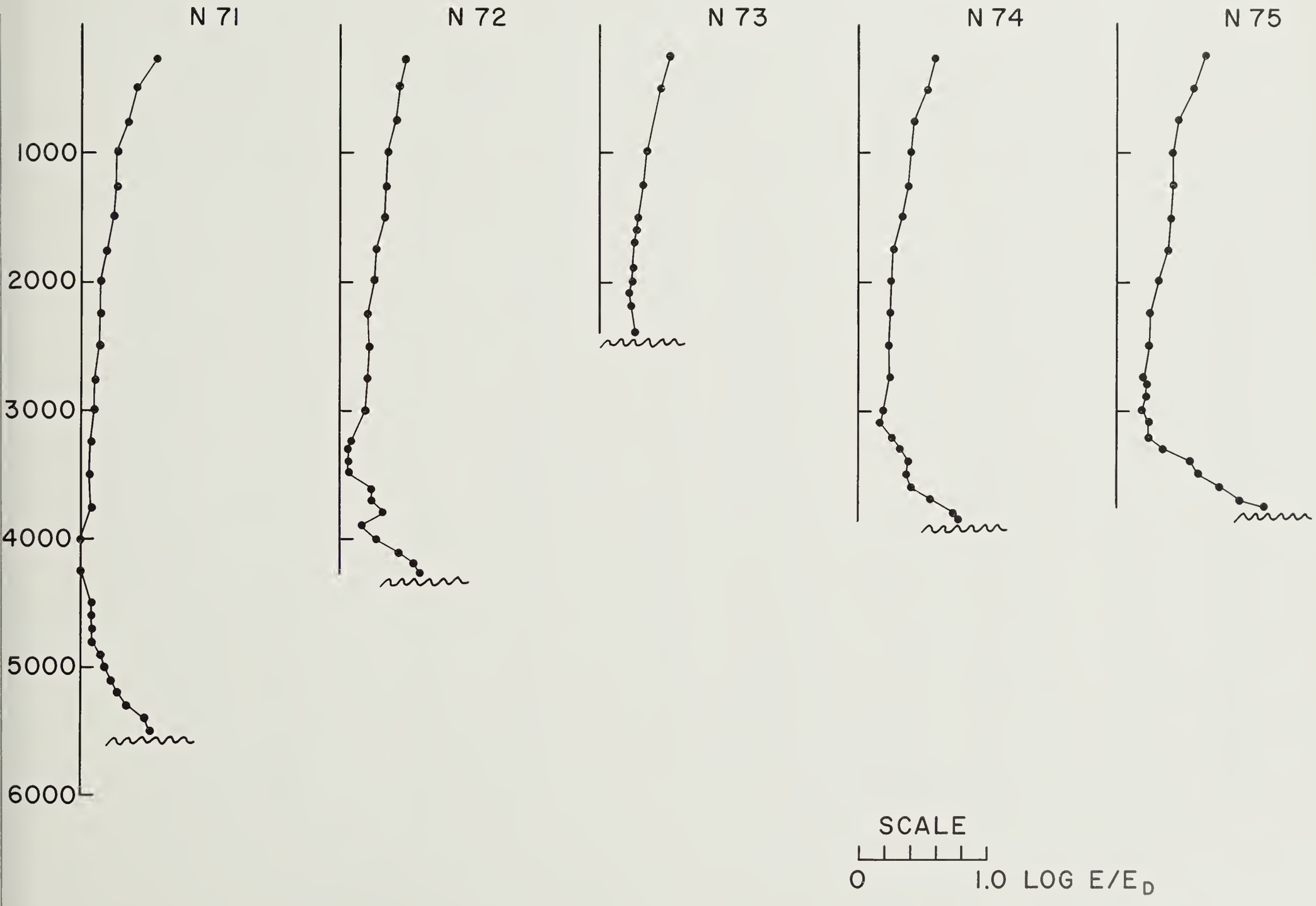
29°55'S
43°25'W
3883 m

Depth	Log E/E_D
250	.61
500	.53
750	.43
1000	.41
1250	.39
1500	.33
1750	.28
2000	.26
2250	.25
2500	.23
2750	.22
3000	.19
3100	.17
3200	.27
3300	.32
3400	.39
3500	.38
3600	.40
3700	.56
3800	.73
3883	.79

N 75

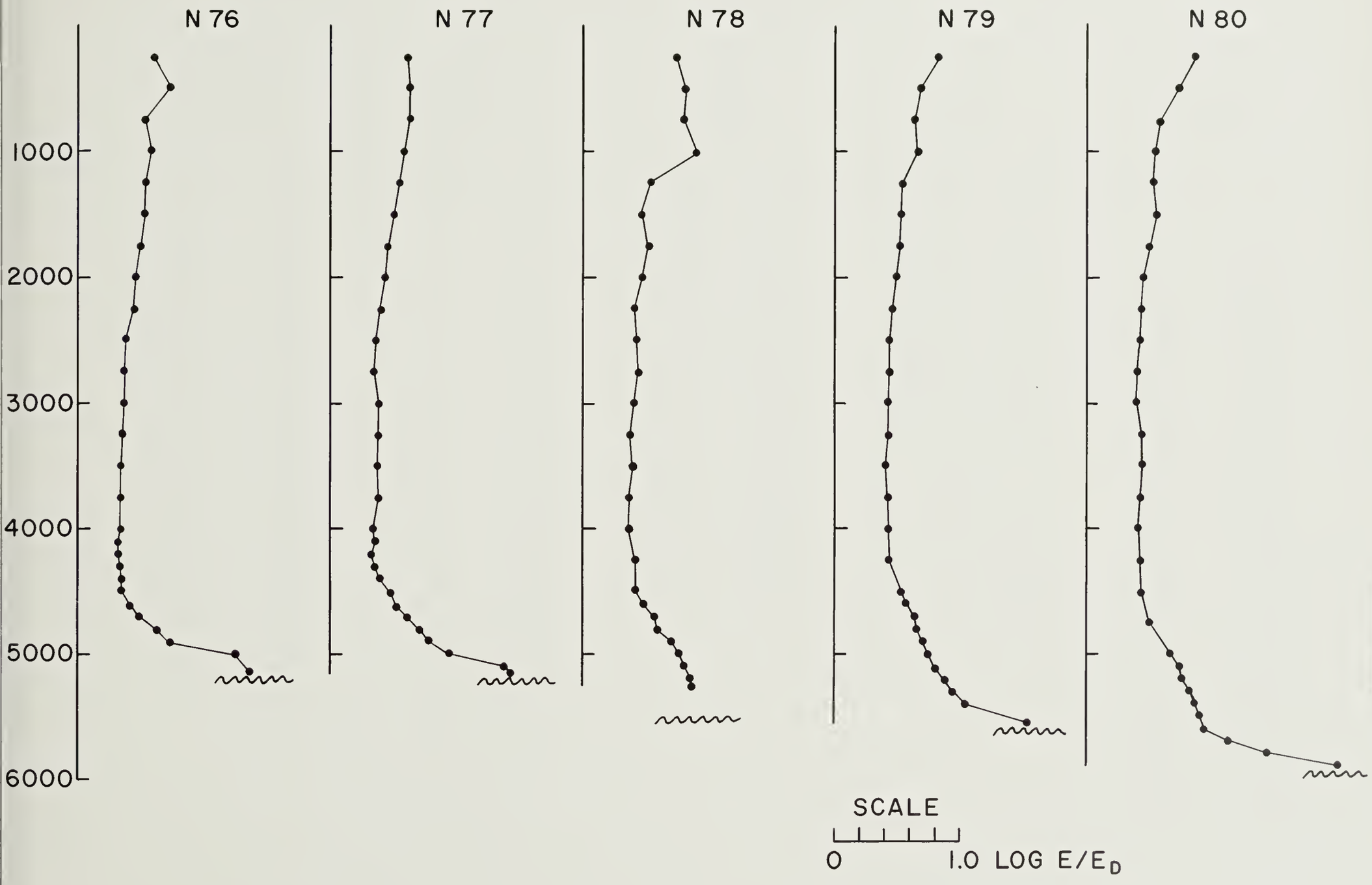
32°10'S
43°56'W
3758 m

Depth	Log E/E_D
250	.69
500	.61
750	.48
1000	.44
1250	.44
1500	.42
1750	.40
2000	.31
2250	.27
2500	.25
2750	.21
2800	.23
2900	.22
3000	.20
3100	.25
3200	.26
3300	.37
3400	.58
3500	.62
3600	.81
3700	.95
3758	1.13


N 71
N 72
N 73
N 74
N 75
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

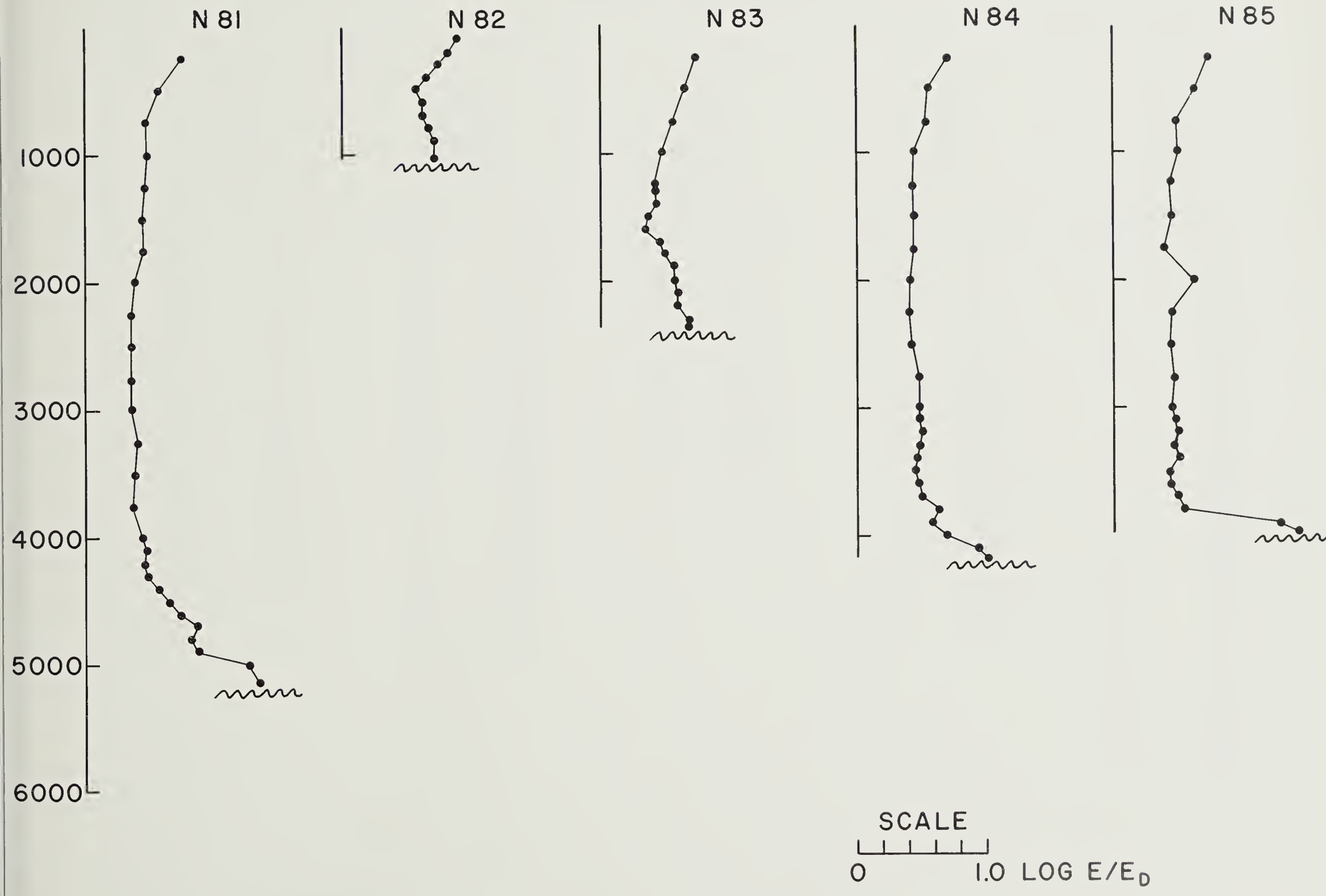
NEPHELOMETER PROFILES

N 76		N 77		N 78		N 79		N 80	
37°50'S 45°18'W 5147 m		40°06'S 45°46'W 5162 m		41°17'S 52°54'W 5492 m		42°46'S 53°56'W 5536 m		45°16'S 53°27'W 5905 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.61	250	.62	250	.75	250	.85	250	.89
500	.75	500	.64	500	.86	500	.70	500	.75
750	.53	750	.62	750	.81	750	.65	750	.61
1000	.59	1000	.60	1000	.92	1000	.68	1000	.57
1250	.53	1250	.56	1250	.53	1250	.55	1250	.55
1500	.53	1500	.51	1500	.48	1500	.53	1500	.59
1750	.50	1750	.46	1750	.53	1750	.52	1750	.51
2000	.47	2000	.44	2000	.49	2000	.50	2000	.48
2250	.43	2250	.40	2250	.42	2250	.47	2250	.46
2500	.39	2500	.38	2500	.43	2500	.45	2500	.45
2750	.38	2750	.36	2750	.44	2750	.45	2750	.41
3000	.38	3000	.41	3000	.41	3000	.43	3000	.41
3250	.36	3250	.39	3250	.39	3250	.42	3250	.44
3500	.34	3500	.39	3500	.41	3500	.41	3500	.44
3750	.35	3750	.40	3750	.39	3750	.43	3750	.44
4000	.36	4000	.36	4000	.37	4000	.43	4000	.41
4100	.32	4100	.37	4250	.42	4250	.44	4250	.43
4200	.32	4200	.36	4500	.42	4500	.53	4500	.43
4300	.34	4300	.39	4600	.50	4600	.58	4750	.51
4400	.34	4400	.41	4700	.59	4700	.65	5000	.69
4500	.35	4500	.50	4800	.60	4800	.66	5100	.78
4600	.41	4600	.54	4900	.72	4900	.70	5200	.79
4700	.50	4700	.63	5000	.79	5000	.75	5300	.82
4800	.63	4800	.72	5100	.81	5100	.79	5400	.86
4900	.72	4900	.79	5200	.86	5200	.89	5500	.90
5000	1.28	5000	.95	5249	.87	5300	.93	5600	.96
5147	1.39	5100	1.40			5400	1.03	5700	1.13
		5162	1.45			5536	1.52	5800	1.46
								5905	2.01


N 76
N 77
N 78
N 79
N 80
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 81		N 82		N 83		N 84		N 85	
45°20'S		46°21'S		46°21'S		47°34'S		47°07'S	
56°42'W		59°32'W		58°51'W		57°16'W		57°38'W	
5140 m		1027 m		2373 m		4167 m		3977 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.74	100	.90	250	.74	250	.71	250	.76
500	.55	200	.83	500	.66	500	.56	500	.65
750	.47	300	.73	750	.55	750	.56	750	.50
1000	.49	400	.65	1000	.50	1000	.44	1000	.52
1250	.45	500	.59	1250	.42	1250	.45	1250	.44
1500	.43	600	.62	1300	.41	1500	.46	1500	.47
1750	.43	700	.62	1400	.43	1750	.43	1750	.39
2000	.38	800	.68	1500	.38	2000	.41	2000	.53
2250	.36	900	.71	1600	.36	2250	.41	2250	.47
2500	.36	1027	.71	1700	.47	2500	.43	2500	.46
2750	.37			1800	.51	2750	.49	2750	.48
3000	.36			1900	.58	3000	.49	3000	.46
3250	.40			2000	.59	3100	.48	3100	.48
3500	.37			2100	.61	3200	.51	3200	.51
3750	.37			2200	.60	3300	.49	3300	.48
4000	.43			2300	.69	3400	.47	3400	.51
4100	.46			2373	.69	3500	.46	3500	.43
4200	.44					3600	.49	3600	.45
4300	.49					3700	.51	3700	.50
4400	.57					3800	.63	3800	.57
4500	.64					3900	.59	3900	1.31
4600	.73					4000	.70	3977	1.47
4700	.84					4100	.95		
4800	.81					4167	1.02		
4900	.87								
5000	1.27								
5140	1.35								


N 81
N 82
N 83
N 84
N 85
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 86, N 87, N 88 - Too shallow to be of value

N 89

55°24'S
61°44'W
4185 m

Depth	Log E/E_D
250	.88
500	.72
750	.64
1000	.56
1250	.61
1500	.64
1750	.60
2000	.52
2250	.51
2500	.41
2750	.37
3000	.37
3100	.38
3200	.46
3300	.46
3400	.52
3500	.57
3600	.72
3700	.79
3800	.89
3900	.90
4000	.91
4100	1.01
4185	1.09

N 90

53°36'S
56°02'W
3028 m

Depth	Log E/E_D
250	.80
500	.62
750	.58
1000	.55
1250	.53
1500	.53
1750	.49
2000	.48
2100	.46
2200	.52
2300	.46
2400	.51
2500	.44
2600	.45
2700	.49
2800	.56
2900	.62
3028	.72

N 91

53°59'S
53°41'W
1260 m

Depth	Log E/E_D
250	.92
500	.73
600	.75
700	.70
800	.63
900	.61
1000	.61
1100	.60
1200	.59
1260	.60

N 92

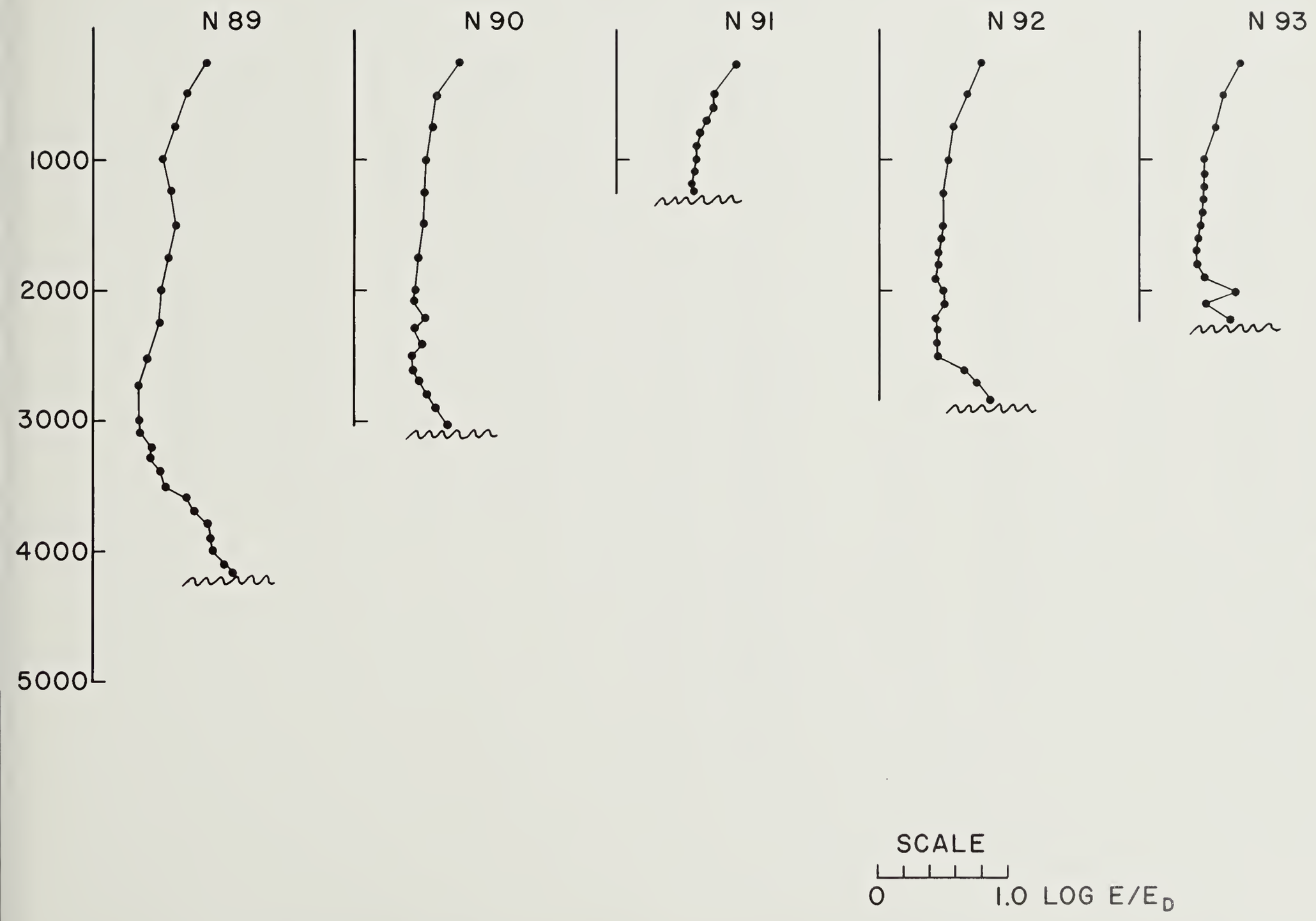
49°14'S
52°40'W
2829 m

Depth	Log E/E_D
250	.78
500	.70
750	.58
1000	.53
1250	.49
1500	.50
1600	.48
1700	.47
1800	.46
1900	.46
2000	.51
2100	.51
2200	.45
2300	.46
2400	.44
2500	.45
2600	.69
2700	.76
2829	.88

N 93

50°17'S
51°06'W
2234 m

Depth	Log E/E_D
250	.77
500	.64
750	.58
1000	.50
1100	.50
1200	.51
1300	.49
1400	.47
1500	.46
1600	.45
1700	.43
1800	.44
1900	.50
2000	.73
2100	.51
2234	.71


N 89
N 90
N 91
N 92
N 93
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 94

50°36'S
46°12'W
1681 m

Depth	Log E/E_D
250	.84
500	.72
600	.67
700	.60
800	.58
900	.57
1000	.56
1100	.55
1200	.54
1300	.52
1400	.55
1500	.75
1600	.85
1681	.65

N 95

52°26'S
46°44'W
3637 m

Depth	Log E/E_D
250	.77
500	.65
750	.65
1000	.60
1250	.51
1500	.49
1750	.46
2000	.42
2250	.44
2500	.50
2600	.49
2700	.50
2800	.53
2900	.56
3000	.56
3100	.60
3200	.60
3300	.68
3400	.72
3500	.83
3637	1.06

N 96

54°47'S
46°02'W
4949 m

Depth	Log E/E_D
250	.68
500	.58
750	.49
1000	.47
1250	.42
1500	.38
1750	.33
2000	.32
2250	.35
2500	.44
2750	.46
3000	.53
3250	.65
3500	.65
3750	.69
4000	.69
4100	.67
4200	.69
4300	.76
4400	.79
4500	.74
4600	.74
4700	.77
4800	.93
4900	1.01
4949	1.08

N 97

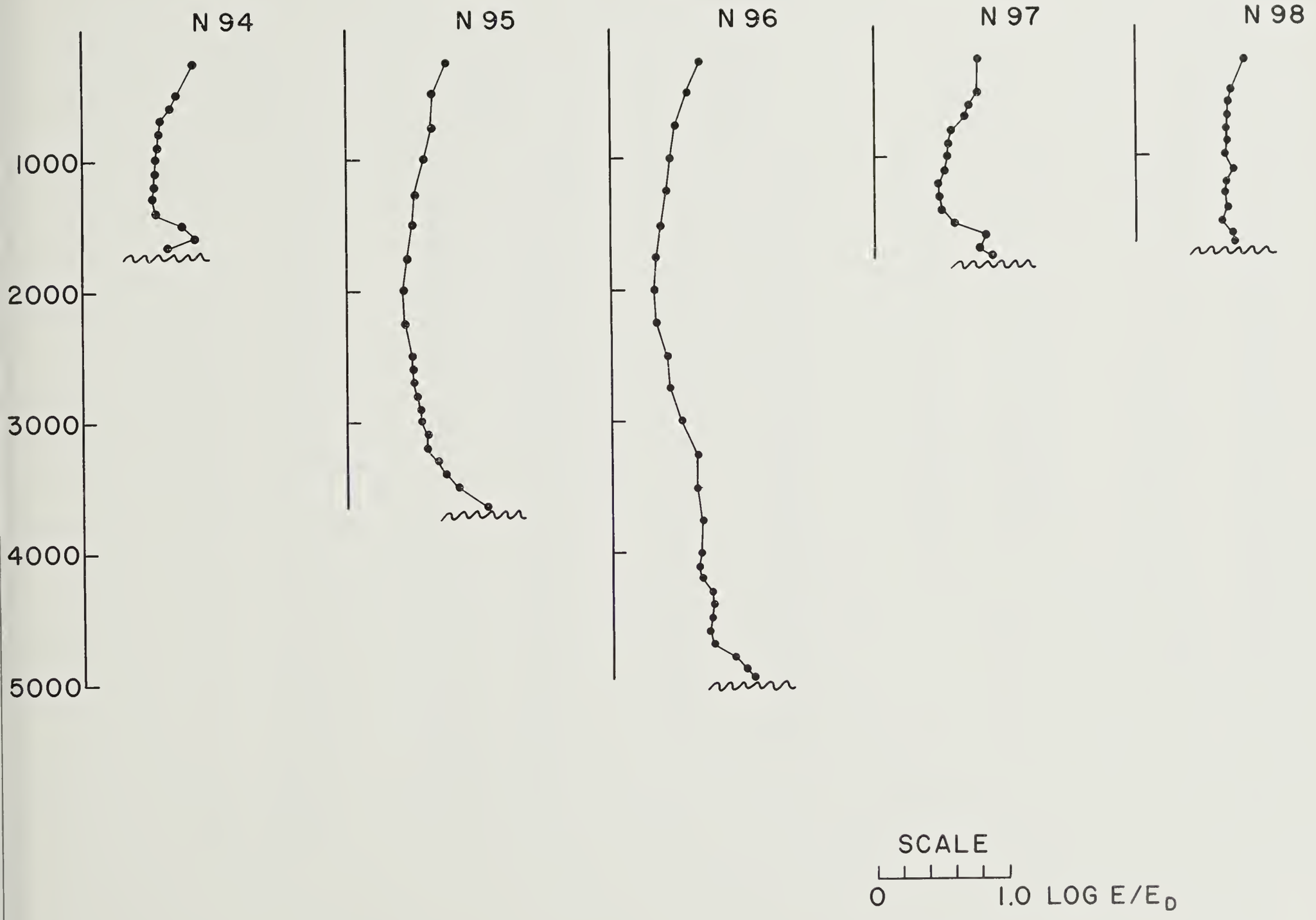
51°14'S
43°26'W
1731 m

Depth	Log E/E_D
250	.80
500	.80
600	.72
700	.70
800	.59
900	.57
1000	.57
1100	.54
1200	.50
1300	.50
1400	.53
1500	.61
1600	.87
1700	.81
1731	.90

N 98

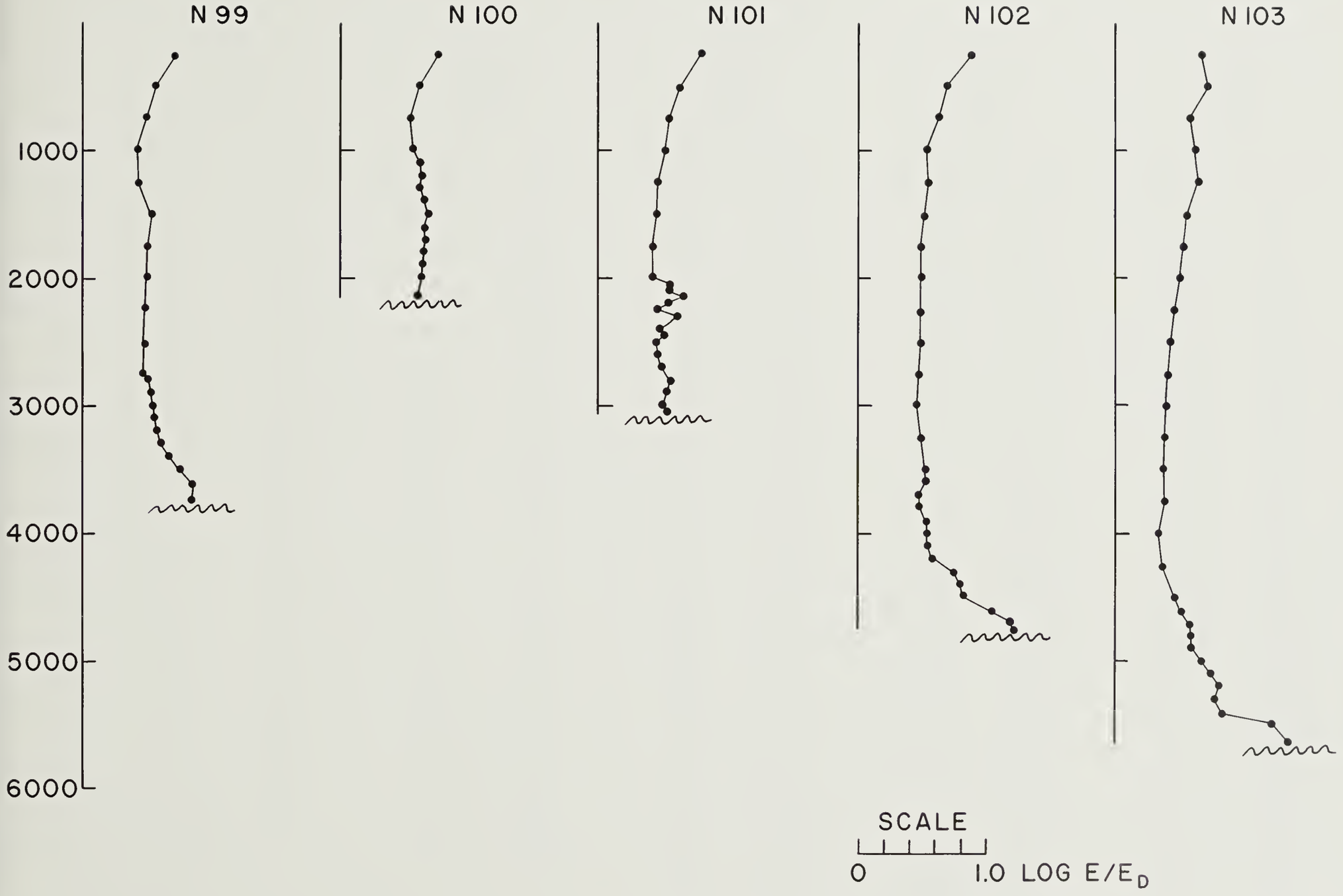
53°13'S
41°57'W
1672 m

Depth	Log E/E_D
250	.82
500	.75
600	.70
700	.70
800	.69
900	.70
1000	.68
1100	.74
1200	.70
1300	.68
1400	.70
1500	.65
1600	.72
1672	.75


N 94
N 95
N 96
N 97
N 98
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

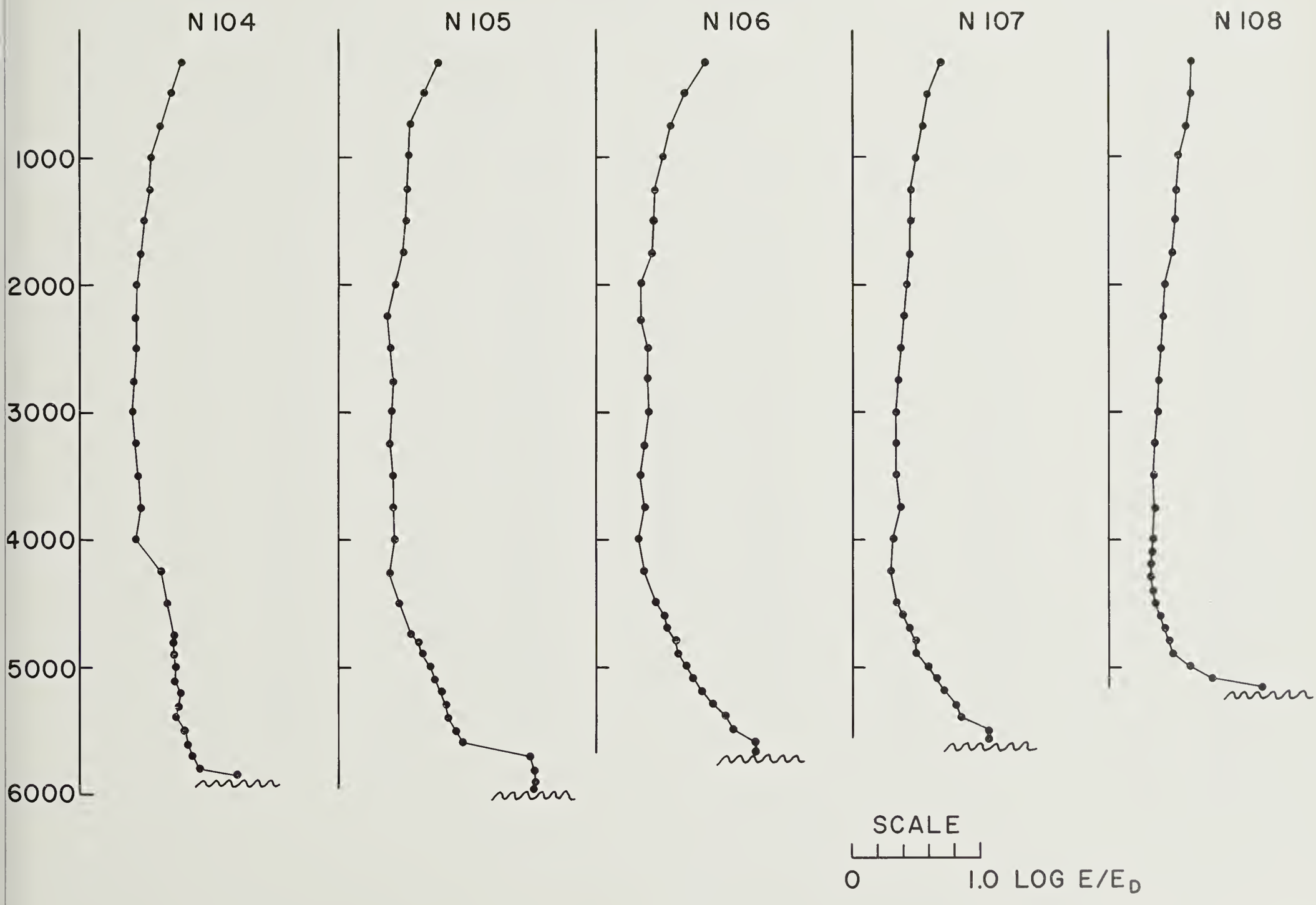
NEPHELOMETER PROFILES

N 99		N 100		N 101		N 102		N 103	
51°56'S 39°55'W 3730 m		41°21'S 56°22'W 2141 m		42°37'S 56°53'W 3060 m		43°09'S 56°08'W 4767 m		44°09'S 54°34'W 5617 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.72	250	.74	250	.79	250	.90	250	.69
500	.58	500	.60	500	.62	500	.69	500	.76
750	.50	750	.52	750	.53	750	.64	750	.60
1000	.41	1000	.57	1000	.51	1000	.55	1000	.65
1250	.46	1100	.61	1250	.45	1250	.57	1250	.65
1500	.56	1200	.62	1500	.43	1500	.53	1500	.58
1750	.51	1300	.62	1750	.41	1750	.50	1750	.54
2000	.50	1400	.64	2000	.42	2000	.51	2000	.52
2250	.49	1500	.67	2050	.55	2250	.50	2250	.48
2500	.48	1600	.66	2100	.55	2500	.50	2500	.45
2750	.49	1700	.66	2150	.64	2750	.48	2750	.41
2800	.51	1800	.63	2200	.52	3000	.47	3000	.42
2900	.53	1900	.62	2250	.45	3250	.50	3250	.39
3000	.56	2000	.60	2300	.59	3500	.52	3500	.38
3100	.58	2141	.59	2350	.55	3600	.53	3750	.39
3200	.59			2400	.47	3700	.49	4000	.36
3300	.61			2450	.50	3800	.48	4250	.38
3400	.68			2500	.44	3900	.53	4500	.48
3500	.75			2600	.45	4000	.54	4600	.52
3600	.87			2700	.48	4100	.55	4700	.59
3730	.84			2800	.54	4200	.59	4800	.60
				2900	.52	4300	.73	4900	.61
				3000	.50	4400	.80	5000	.69
				3060	.53	4500	.82	5100	.76
						4600	1.03	5200	.81
						4700	1.19	5300	.79
						4767	1.22	5400	.84
								5500	1.23
								5617	1.35


N 99
N 100
N 101
N 102
N 103
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

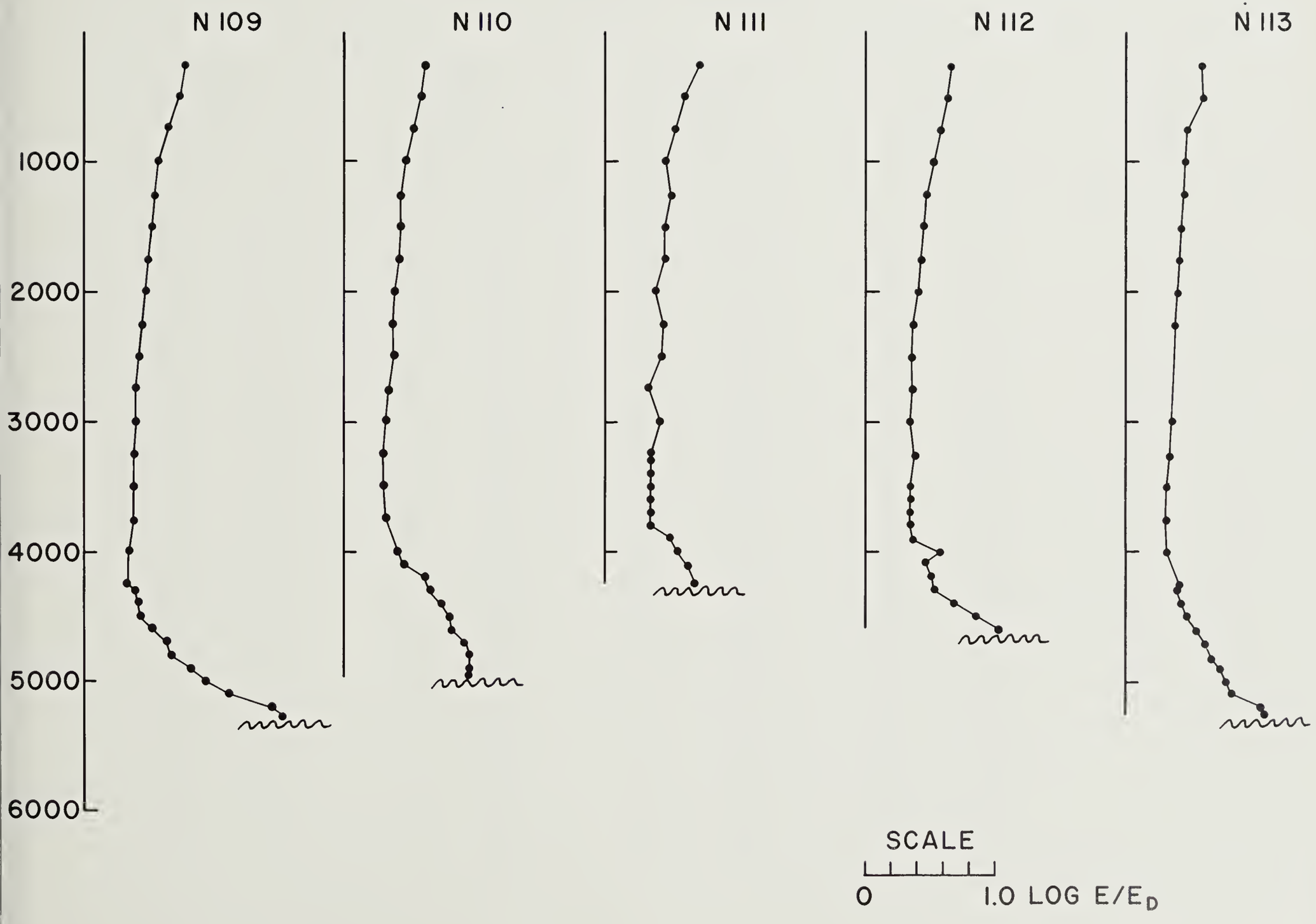
NEPHELOMETER PROFILES

N 104		N 105		N 106		N 107		N 108	
45°20'S		45°57'S		46°29'S		46°54'S		47°01'S	
52°10'W		59°29'W		47°52'W		39°01'W		39°50'W	
5868 m		5929 m		5685 m		5576 m		5189 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.78	250	.79	250	.85	250	.70	250	.64
500	.70	500	.69	500	.67	500	.59	500	.63
750	.63	750	.57	750	.58	750	.53	750	.61
1000	.54	1000	.56	1000	.51	1000	.49	1000	.55
1250	.54	1250	.53	1250	.47	1250	.47	1250	.52
1500	.50	1500	.52	1500	.47	1500	.47	1500	.52
1750	.48	1750	.50	1750	.44	1750	.45	1750	.50
2000	.44	2000	.43	2000	.36	2000	.43	2000	.45
2250	.43	2250	.39	2250	.35	2250	.41	2250	.42
2500	.44	2500	.41	2500	.41	2500	.38	2500	.41
2750	.42	2750	.43	2750	.40	2750	.36	2750	.39
3000	.41	3000	.42	3000	.40	3000	.35	3000	.39
3250	.42	3250	.40	3250	.37	3250	.36	3250	.37
3500	.45	3500	.44	3500	.35	3500	.36	3500	.35
3750	.47	3750	.42	3750	.37	3750	.38	3750	.37
4000	.44	4000	.44	4000	.33	4000	.32	4000	.35
4250	.62	4250	.40	4250	.37	4250	.30	4100	.34
4500	.68	4500	.48	4500	.48	4500	.35	4200	.33
4750	.73	4750	.58	4600	.53	4600	.39	4300	.33
4800	.73	4800	.62	4700	.55	4700	.45	4400	.34
4900	.75	4900	.67	4800	.63	4800	.49	4500	.37
5000	.77	5000	.72	4900	.65	4900	.51	4600	.40
5100	.78	5100	.76	5000	.70	5000	.60	4700	.44
5200	.80	5200	.79	5100	.77	5100	.67	4800	.47
5300	.79	5300	.84	5200	.83	5200	.72	4900	.51
5400	.78	5400	.87	5300	.91	5300	.82	5000	.65
5500	.82	5500	.92	5400	1.01	5400	.87	5100	.80
5600	.85	5600	.99	5500	1.08	5500	1.08	5189	1.22
5700	.89	5700	1.50	5600	1.24	5576	1.08		
5800	.94	5800	1.53	5685	1.26				
5868	1.25	5900	1.56						
		5919	1.55						


N 104
N 105
N 106
N 107
N 108
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

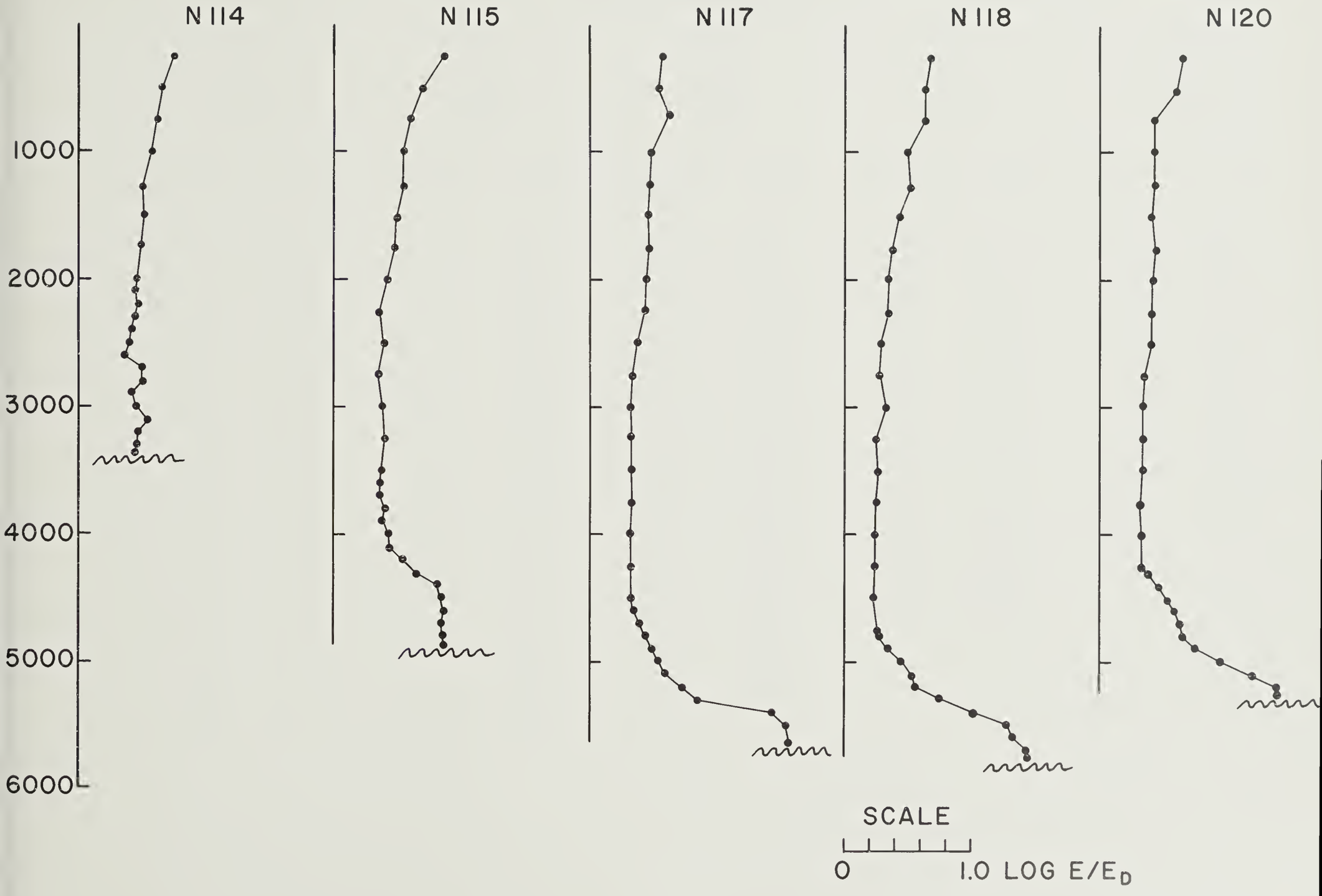
N 109		N 110		N 111		N 112		N 113	
46°57'S 44°06'W 5280 m		48°54'S 36°41'W 4939 m		49°10'S 36°44'W 4220 m		49°08'S 36°13'W 4609 m		49°07'S 35°54'W 5251 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.77	250	.63	250	.72	250	.68	250	.59
500	.73	500	.61	500	.61	500	.63	500	.61
750	.65	750	.53	750	.54	750	.57	750	.48
1000	.58	1000	.48	1000	.48	1000	.51	1000	.46
1250	.53	1250	.44	1250	.51	1250	.47	1250	.43
1500	.52	1500	.46	1500	.47	1500	.46	1500	.42
1750	.51	1750	.44	1750	.46	1750	.42	1750	.41
2000	.48	2000	.40	2000	.40	2000	.41	2000	.40
2250	.46	2250	.38	2250	.45	2250	.38	2250	.39
2500	.43	2500	.39	2500	.43	2500	.35	3000	.36
2750	.39	2750	.35	2750	.35	2750	.37	3250	.33
3000	.41	3000	.32	3000	.42	3000	.35	3500	.31
3250	.39	3250	.30	3250	.37	3250	.39	3750	.31
3500	.39	3500	.31	3300	.36	3500	.34	4000	.32
3750	.39	3750	.32	3400	.35	3600	.35	4250	.41
4000	.35	4000	.42	3500	.36	3700	.35	4300	.39
4250	.36	4100	.47	3600	.35	3800	.37	4400	.42
4300	.40	4200	.62	3700	.37	3900	.39	4500	.47
4400	.42	4300	.66	3800	.36	4000	.59	4600	.57
4500	.46	4400	.77	3900	.51	4100	.48	4700	.62
4600	.53	4500	.82	4000	.55	4200	.51	4800	.66
4700	.63	4600	.84	4100	.63	4300	.55	4900	.73
4800	.68	4700	.95	4220	.70	4400	.69	5000	.77
4900	.84	4800	.98			4500	.86	5100	.82
5000	.95	4900	.98			4609	1.04	5200	1.05
5100	1.11	4939	.98					5251	1.09
5200	1.47								
5280	1.52								


N 109
N 110
N 111
N 112
N 113
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

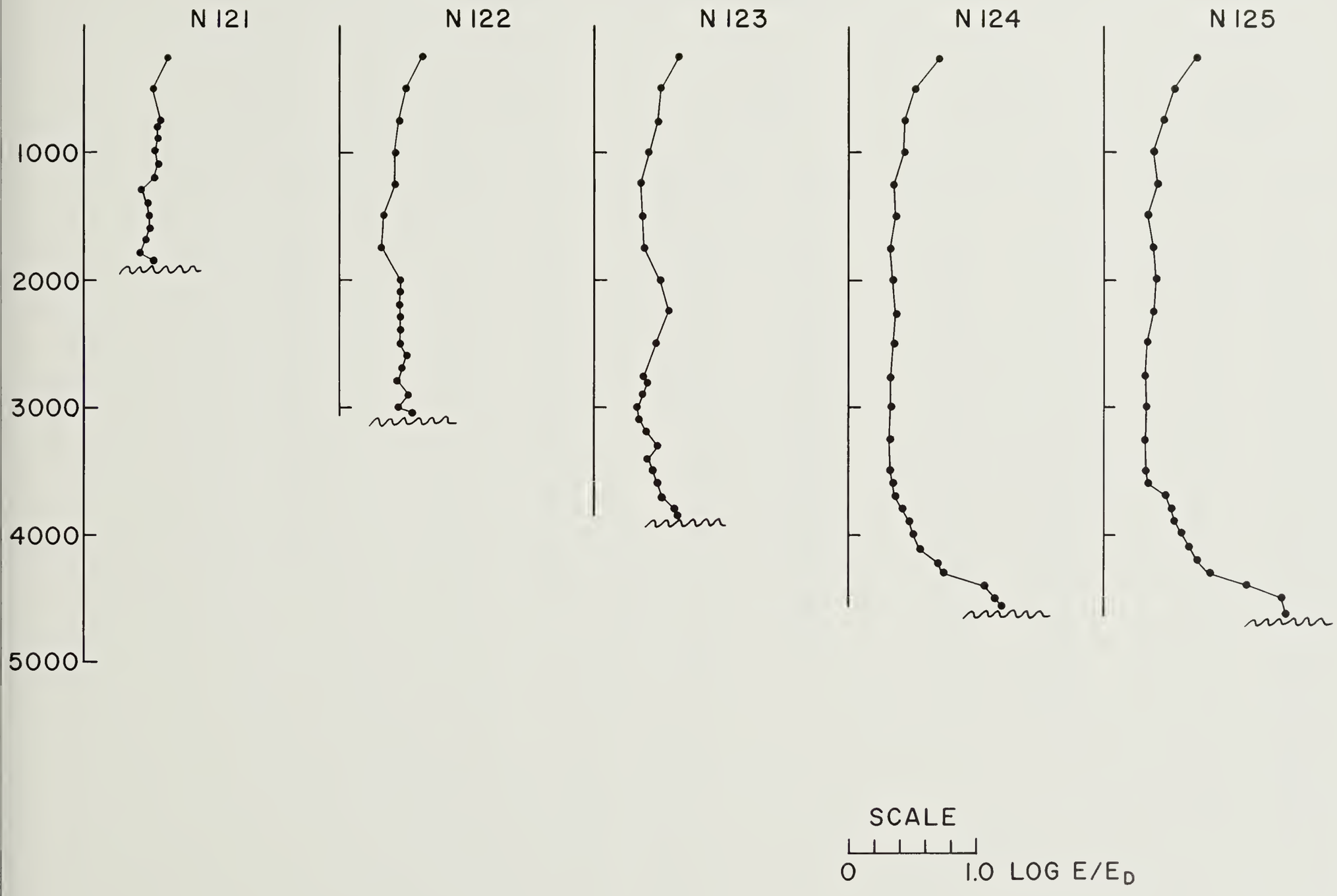
N 116, N 119 - Data not available

N 114 48°51'S 34°53'W 3360 m		N 115 49°03'S 35°18'W 4891 m		N 117 42°34'S 49°01'W 5622 m		N 118 42°00'S 50°02'W 5774 m		N 120 40°31'S 53°03'W 5257 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.74	250	.84	250	.57	250	.69	250	.66
500	.67	500	.70	500	.55	500	.64	500	.61
750	.61	750	.60	750	.63	750	.64	750	.43
1000	.58	1000	.56	1000	.50	1000	.51	1000	.46
1250	.51	1250	.54	1250	.49	1250	.52	1250	.46
1500	.53	1500	.50	1500	.47	1500	.44	1500	.41
1750	.50	1750	.48	1750	.49	1750	.38	1750	.46
2000	.47	2000	.41	2000	.45	2000	.36	2000	.42
2100	.45	2250	.38	2250	.43	2250	.35	2250	.41
2200	.47	2500	.41	2500	.38	2500	.30	2500	.41
2300	.44	2750	.37	2750	.35	2750	.28	2750	.36
2400	.42	3000	.41	3000	.33	3000	.33	3000	.33
2500	.40	3250	.40	3250	.35	3250	.26	3250	.34
2600	.37	3500	.38	3500	.32	3500	.28	3500	.35
2700	.51	3600	.38	3750	.34	3750	.25	3750	.31
2800	.50	3700	.39	4000	.33	4000	.24	4000	.34
2900	.42	3800	.41	4250	.32	4250	.24	4250	.36
3000	.45	3900	.40	4500	.34	4500	.26	4300	.39
3100	.54	4000	.43	4600	.36	4750	.28	4400	.47
3200	.48	4100	.45	4700	.40	4800	.29	4500	.53
3300	.45	4200	.53	4800	.44	4900	.34	4600	.59
3360	.44	4300	.67	4900	.51	5000	.46	4700	.63
		4400	.82	5000	.55	5100	.53	4800	.65
		4500	.85	5100	.60	5200	.57	4900	.75
		4600	.88	5200	.73	5300	.75	5000	.94
		4700	.86	5300	.87	5400	1.01	5100	1.21
		4800	.88	5400	1.43	5500	1.29	5200	1.40
		4891	.89	5500	1.54	5600	1.33	5257	1.41
				5622	1.58	5700	1.43		
						5774	1.45		


N 114
N 115
N 117
N 118
N 120
1000
2000
3000
4000
5000
6000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 121		N 122		N 123		N 124		N 125	
39°34'S 54°36'W 1886 m		39°38'S 54°29'W 3033 m		39°45'S 54°12'W 3837 m		39°58'S 53°52'W 4567 m		39°58'S 53°47'W 4637 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.67	250	.66	250	.68	250	.72	250	.74
500	.54	500	.52	500	.53	500	.52	500	.57
750	.61	750	.48	750	.51	750	.46	750	.49
800	.59	1000	.45	1000	.43	1000	.44	1000	.40
900	.58	1250	.46	1250	.38	1250	.37	1250	.42
1000	.56	1500	.36	1500	.39	1500	.38	1500	.36
1100	.57	1750	.33	1750	.41	1750	.34	1750	.41
1200	.54	2000	.49	2000	.52	2000	.35	2000	.42
1300	.46	2100	.49	2250	.59	2250	.38	2250	.41
1400	.51	2200	.48	2500	.49	2500	.36	2500	.35
1500	.51	2300	.49	2750	.40	2750	.33	2750	.36
1600	.52	2400	.49	2800	.41	3000	.34	3000	.35
1700	.48	2500	.48	2900	.39	3250	.32	3250	.34
1800	.45	2600	.52	3000	.36	3500	.32	3500	.34
1886	.56	2700	.50	3100	.37	3600	.34	3600	.37
		2800	.48	3200	.41	3700	.37	3700	.50
		2900	.53	3300	.51	3800	.42	3800	.54
		3000	.47	3400	.43	3900	.48	3900	.57
		3033	.57	3500	.47	4000	.51	4000	.61
				3600	.51	4100	.56	4100	.68
				3700	.53	4200	.71	4200	.74
				3800	.62	4300	.75	4300	.85
				3837	.66	4400	1.08	4400	1.13
						4500	1.17	4500	1.41
						4567	1.20	4637	1.44


N 121
N 122
N 123
N 124
N 125
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 126

40°12'S
53°29'W
4874 m

Depth	Log E/E_D
250	.69
500	.59
750	.55
1000	.53
1250	.48
1500	.41
1750	.43
2000	.44
2250	.43
2500	.38
2750	.36
3000	.37
3250	.33
3500	.32
3750	.33
3800	.32
3900	.30
4000	.32
4100	.35
4200	.38
4300	.44
4400	.49
4500	.57
4600	.80
4700	1.66
4800	1.69
4874	1.69

N 127

32°43'S
46°02'W
4004 m

Depth	Log E/E_D
250	.72
500	.64
750	.46
1000	.44
1250	.41
1500	.41
1750	.40
2000	.37
2250	.30
2500	.28
2750	.23
3000	.25
3100	.23
3200	.25
3300	.29
3400	.34
3500	.58
3600	.57
3700	.61
3800	.66
3900	1.07
4004	1.09

N 128

31°57'S
48°30'W
2885 m

Depth	Log E/E_D
250	.59
500	.51
750	.47
1000	.38
1250	.37
1500	.33
1750	.35
1800	.39
1900	.28
2000	.34
2100	.29
2200	.24
2300	.24
2400	.25
2500	.24
2600	.26
2700	.24
2800	.27
2885	.33

N 129

27°42'S
46°31'W
1605 m

Depth	Log E/E_D
250	.61
500	.47
600	.44
700	.42
800	.46
900	.41
1000	.43
1100	.44
1200	.38
1300	.37
1400	.47
1500	.44
1605	.48

N 130

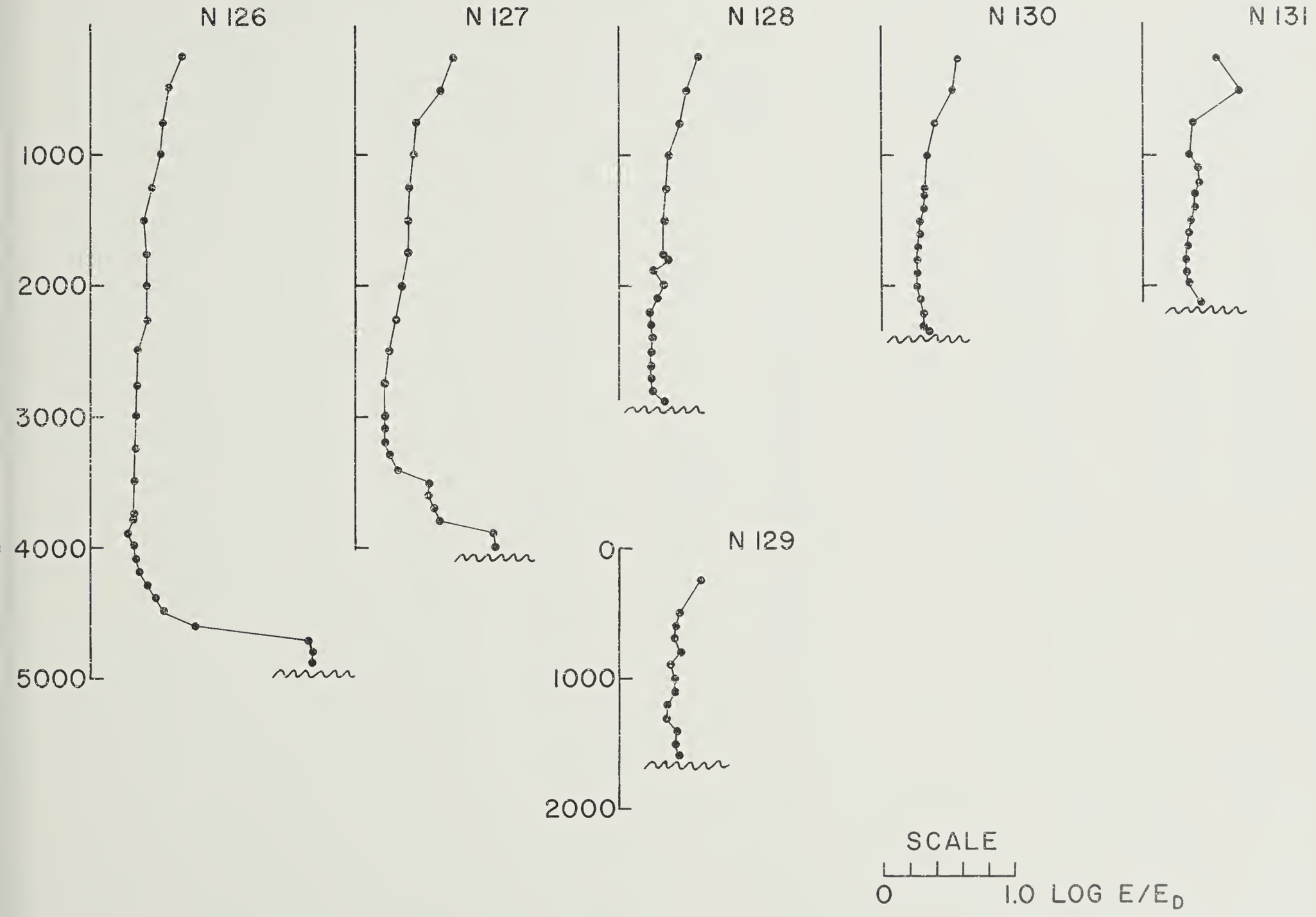
28°47'S
46°25'W
2342 m

Depth	Log E/E_D
250	.58
500	.56
750	.41
1000	.35
1250	.34
1300	.33
1400	.32
1500	.30
1600	.29
1700	.28
1800	.28
1900	.28
2000	.28
2100	.30
2200	.32
2300	.32
2342	.37

N 131

26°32'S
45°15'W
2132 m

Depth	Log E/E_D
250	.58
500	.74
750	.39
1000	.38
1100	.42
1200	.44
1300	.40
1400	.40
1500	.37
1600	.36
1700	.34
1800	.32
1900	.32
2000	.33
2132	.42


N 126
N 127
N 128
N 130
N 131
1000
2000
3000
4000
5000
N 129
0
1000
2000
SCALE
0
1.0 LOG E/E_D

NEPHELOMETER PROFILES

N 132

25°27'S
44°14'W
1925 m

Depth	Log E/E_D
250	.60
500	.50
750	.40
1000	.40
1100	.37
1200	.40
1300	.38
1400	.39
1500	.37
1600	.35
1700	.33
1800	.33
1925	.42

N 133

25°29'S
44°10'W
1920 m

Depth	Log E/E_D
250	.67
500	.58
750	.44
1000	.44
1100	.43
1200	.41
1300	.39
1400	.39
1500	.38
1600	.39
1700	.38
1800	.36
1920	.36

N 134

29°35'S
45°39'W
3323 m

Depth	Log E/E_D
250	.60
500	.51
750	.44
1000	.40
1250	.35
1500	.32
1750	.29
2000	.27
2250	.26
2300	.25
2400	.24
2500	.24
2600	.25
2700	.26
2800	.38
2900	.37
3000	.57
3100	.61
3200	.54
3323	.65

N 135

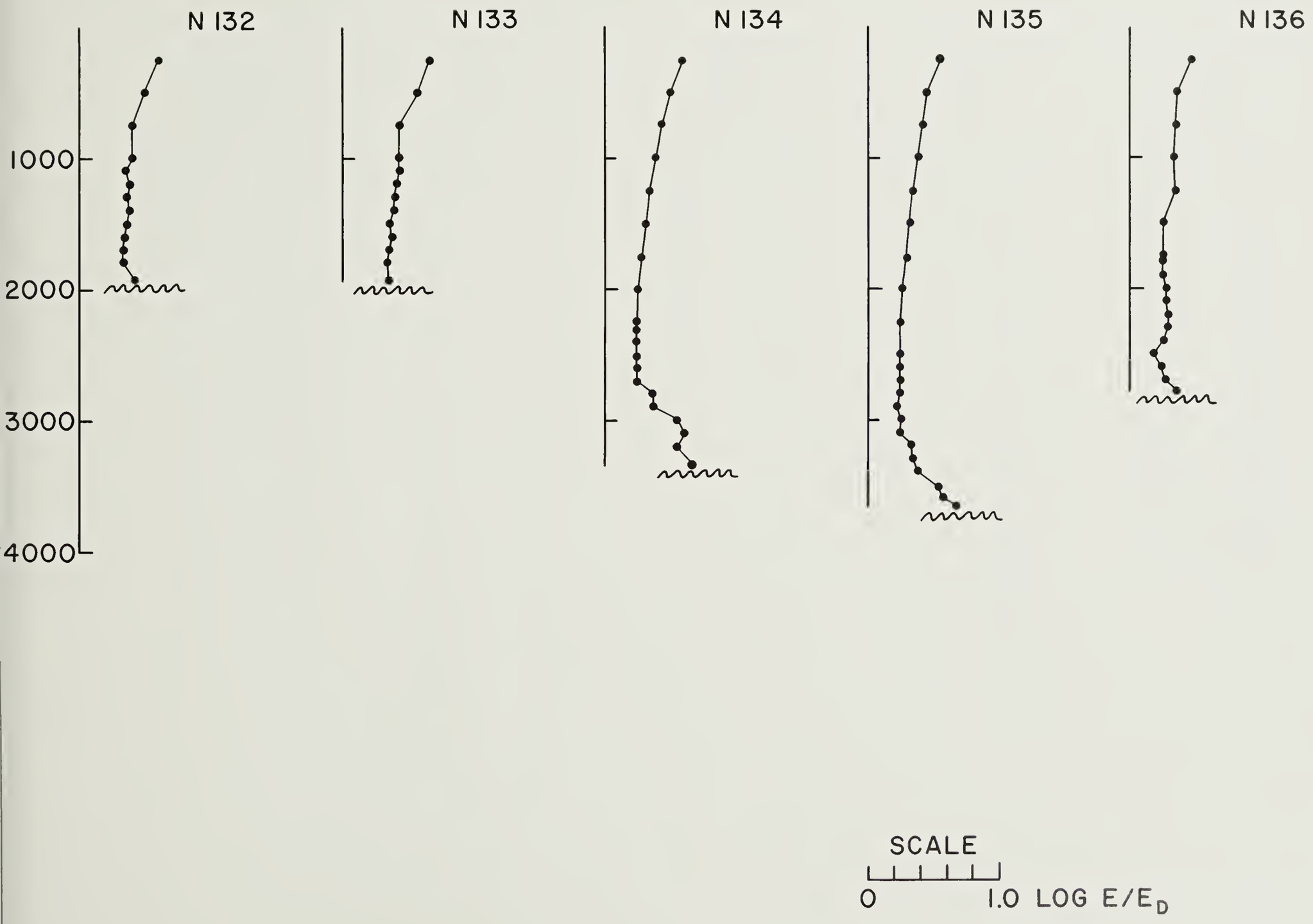
29°27'S
44°21'W
3654 m

Depth	Log E/E_D
250	.57
500	.46
750	.42
1000	.38
1250	.36
1500	.31
1750	.30
2000	.27
2250	.25
2500	.24
2600	.25
2700	.25
2800	.24
2900	.22
3000	.24
3100	.26
3200	.33
3300	.35
3400	.39
3500	.53
3600	.59
3654	.67

N 136

27°47'S
43°06'W
2790 m

Depth	Log E/E_D
250	.48
500	.38
750	.35
1000	.33
1250	.36
1500	.27
1750	.27
1800	.27
1900	.25
2000	.29
2100	.28
2200	.30
2300	.29
2400	.26
2500	.19
2600	.22
2700	.28
2790	.34


N 132
N 133
N 134
N 135
N 136
1000
2000
3000
4000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 137

27°00'S
41°39'W
2708 m

Depth	Log E/E_D
250	.72
500	.56
750	.39
1000	.33
1250	.34
1500	.32
1750	.33
1800	.31
1900	.30
2000	.29
2100	.28
2200	.28
2300	.29
2400	.34
2500	.47
2600	.49
2708	.50

N 138

28°45'S
40°45'W
4312 m

Depth	Log E/E_D
250	.48
500	.41
750	.37
1000	.34
1250	.34
1500	.29
1750	.26
2000	.25
2250	.23
2500	.20
2750	.22
3000	.31
3250	.33
3300	.36
3400	.46
3500	.59
3600	.63
3700	.71
3800	.73
3900	.74
4000	.75
4100	.71
4200	.70
4312	.78

N 139

30°25'S
36°01'W
1181 m

Depth	Log E/E_D
250	.55
500	.49
600	.51
700	.50
800	.45
900	.45
1000	.45
1100	.48
1181	.50

N 140

27°46'S
37°05'W
4642 m

Depth	Log E/E_D
250	.58
500	.42
750	.38
1000	.34
1250	.36
1500	.32
1750	.29
2000	.26
2250	.23
2500	.22
2750	.20
3000	.20
3250	.23
3500	.27
3600	.27
3700	.21
3800	.15
3900	.16
4000	.45
4100	.74
4200	.98
4300	.94
4400	1.04
4500	1.00
4600	1.14
4642	1.13

N 141

27°03'S
40°10'W
3663 m

Depth	Log E/E_D
250	.59
500	.50
750	.43
1000	.40
1250	.42
1500	.35
1750	.31
2000	.28
2250	.26
2500	.24
2600	.24
2700	.23
2800	.23
2900	.23
3000	.25
3100	.26
3200	.20
3300	.32
3400	.41
3500	.41
3600	.46
3663	.50


N 137
N 138
N 139
N 140
N 141
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 142

26°22'S
39°33'W
2232 m

Depth	Log E/E_D
250	.57
500	.48
750	.41
1000	.36
1250	.35
1300	.33
1400	.33
1500	.32
1600	.29
1700	.26
1800	.27
1900	.25
2000	.28
2100	.32
2232	.25

N 143

22°25'S
37°32'W
1332 m

Depth	Log E/E_D
250	.53
500	.39
600	.37
700	.37
800	.34
900	.34
1000	.33
1100	.32
1200	.30
1300	.32
1330	.27

N 144

22°06'S
39°26'W
2376 m

Depth	Log E/E_D
250	.61
500	.50
750	.45
1000	.43
1250	.41
1300	.41
1400	.41
1500	.39
1600	.38
1700	.38
1800	.41
1900	.36
2000	.32
2100	.34
2200	.37
2300	.39
2376	.41

N 145

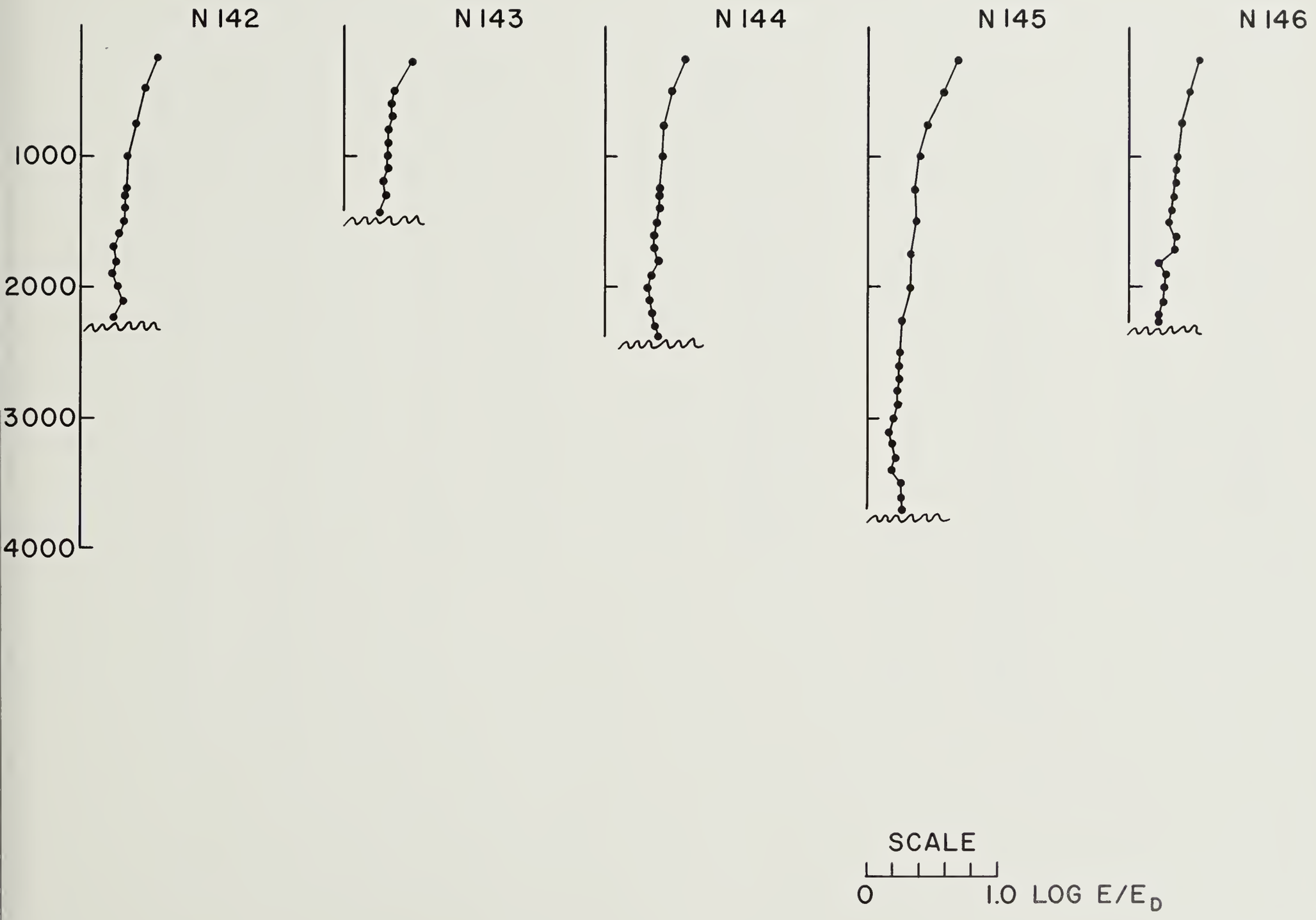
21°32'S
37°51'W
3703 m

Depth	Log E/E_D
250	.69
500	.58
750	.46
1000	.39
1250	.36
1500	.38
1750	.32
2000	.32
2250	.27
2500	.24
2600	.24
2700	.24
2800	.21
2900	.21
3000	.19
3100	.17
3200	.19
3300	.21
3400	.19
3500	.23
3600	.26
3703	.27

N 146

20°54'S
37°52'W
2239 m

Depth	Log E/E_D
250	.52
500	.45
750	.39
1000	.38
1100	.36
1200	.36
1300	.33
1400	.32
1500	.30
1600	.35
1700	.35
1800	.24
1900	.29
2000	.28
2100	.27
2200	.22
2239	.23


N 142
N 143
N 144
N 145
N 146
1000
2000
3000
4000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 147

20°22'S
36°22'W
1675 m

Depth	Log E/E_D
250	.69
500	.55
600	.52
700	.50
800	.50
900	.47
1000	.45
1100	.45
1200	.44
1300	.43
1400	.43
1500	.40
1600	.35
1675	.35

N 148

19°09'S
35°26'W
4084 m

Depth	Log E/E_D
250	.56
500	.49
750	.39
1000	.37
1250	.32
1500	.29
1750	.27
2000	.27
2250	.25
2500	.22
2750	.21
3000	.19
3100	.18
3200	.18
3300	.18
3400	.19
3500	.26
3600	.28
3700	.31
3800	.54
3900	.79
4000	.78
4084	.94

N 149

17°43'S
36°03'W
2288 m

Depth	Log E/E_D
250	.58
500	.51
750	.47
1000	.42
1250	.39
1300	.40
1400	.37
1500	.35
1600	.37
1700	.33
1800	.35
1900	.32
2000	.32
2100	.30
2200	.31
2285	.30

N 150

17°10'S
37°11'W
1891 m

Depth	Log E/E_D
250	.71
500	.63
600	.62
700	.61
800	.58
900	.51
1000	.46
1100	.44
1200	.46
1300	.41
1400	.42
1500	.37
1600	.36
1700	.37
1800	.37
1891	.37

N 151

16°13'S
35°16'W
4205 m

Depth	Log E/E_D
250	.62
500	.51
750	.52
1000	.43
1250	.38
1500	.27
1750	.27
2000	.28
2250	.28
2500	.28
2750	.20
3000	.20
3100	.20
3200	.20
3300	.20
3400	.18
3500	.18
3600	.20
3700	.22
3800	.27
3900	.30
4000	.41
4100	.56
4150	1.05
4205	1.17


N 147
N 148
N 149
N 150
N 151
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E_D

NEPHELOMETER PROFILES

N 152

15°49'S
37°21'W
3986 m

Depth	Log E/E_D
250	.53
500	.41
750	.47
1000	.34
1250	.30
1500	.30
1750	.30
2000	.36
2250	.27
2500	.24
2750	.19
3000	.21
3100	.20
3200	.20
3300	.22
3400	.18
3500	.18
3600	.20
3700	.30
3800	.49
3900	.59
3986	.54

N 153

15°47'S
38°39'W
918 m

Depth	Log E/E_D
250	.73
300	.75
400	.87
500	.73
600	.82
700	.85
800	.89
918	1.04

N 154

14°32'S
36°27'W
4385 m

Depth	Log E/E_D
250	.57
500	.53
750	.40
1000	.34
1250	.32
1500	.33
1750	.31
2000	.31
2250	.27
2500	.28
2750	.26
3000	.25
3250	.21
3300	.22
3400	.21
3500	.20
3600	.20
3700	.18
3800	.28
3900	.34
4000	.38
4100	.34
4200	.56
4300	.90
4385	.99

N 155

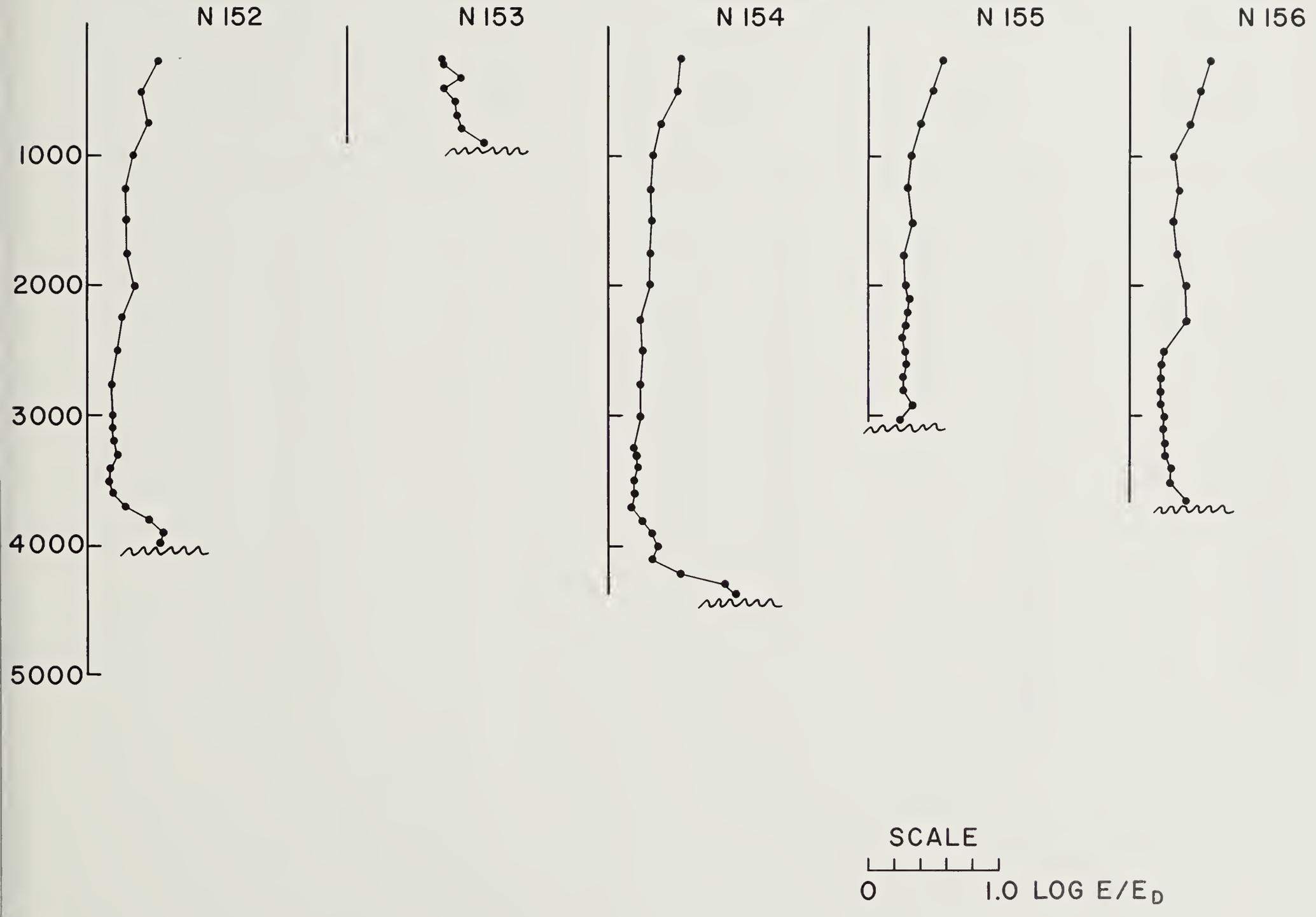
13°58'S
38°04'W
3020 m

Depth	Log E/E_D
250	.58
500	.51
750	.40
1000	.32
1250	.30
1500	.34
1750	.28
2000	.29
2100	.31
2200	.30
2300	.28
2400	.27
2500	.29
2600	.29
2700	.28
2800	.28
2900	.32
3020	.25

N 156

13°23'S
36°23'W
3645 m

Depth	Log E/E_D
250	.62
500	.56
750	.48
1000	.37
1250	.39
1500	.34
1750	.38
2000	.42
2250	.42
2500	.29
2600	.27
2700	.27
2800	.26
2900	.26
3000	.28
3100	.27
3200	.28
3300	.29
3400	.32
3500	.32
3645	.47


N 152
N 153
N 154
N 155
N 156
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 157

13°05'S
36°49'W
3978 m

Depth	Log E/E_D
250	.60
500	.50
750	.40
1000	.38
1250	.34
1500	.31
1750	.33
2000	.30
2250	.25
2500	.32
2750	.31
3000	.28
3100	.21
3200	.20
3300	.19
3400	.20
3500	.18
3600	.18
3700	.21
3800	.21
3900	.25
3978	.43

N 158

13°12'S
34°43'W
4472 m

Depth	Log E/E_D
250	.52
500	.48
750	.41
1000	.32
1250	.30
1500	.29
1750	.23
2000	.22
2250	.19
2500	.14
2750	.18
3000	.17
3250	.17
3500	.17
3600	.13
3700	.16
3800	.17
3900	.19
4000	.24
4100	.30
4200	.51
4300	.52
4400	1.19
4472	1.61

N 159

12°15'S
36°58'W
3215 m

Depth	Log E/E_D
250	.52
500	.46
750	.41
1000	.38
1250	.37
1500	.34
1750	.25
2000	.33
2250	.33
2300	.31
2400	.27
2500	.24
2600	.26
2700	.23
2800	.22
2900	.25
3000	.24
3100	.20
3215	.21

N 160

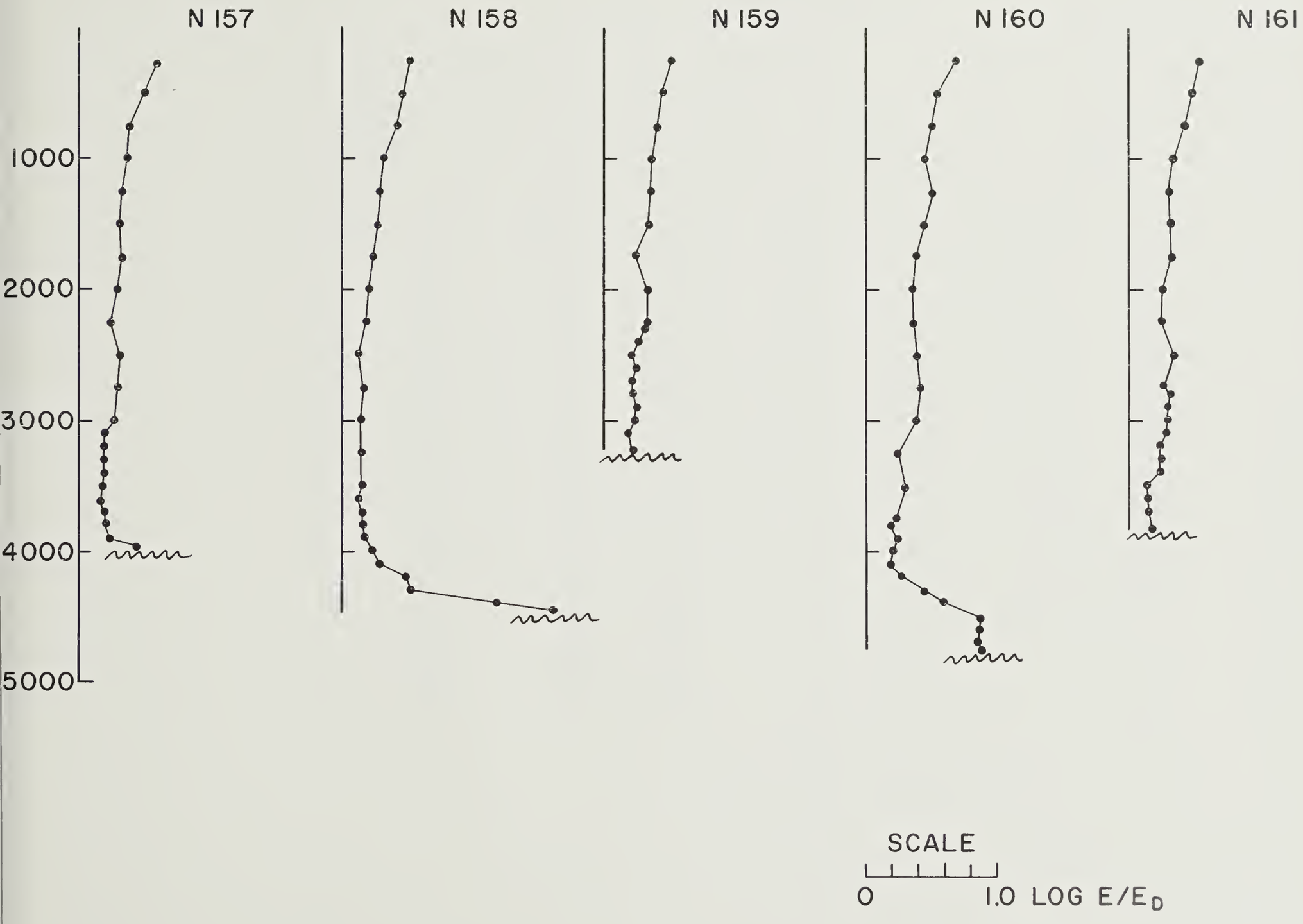
10°16'S
33°41'W
4755 m

Depth	Log E/E_D
250	.69
500	.55
750	.50
1000	.44
1250	.50
1500	.44
1750	.38
2000	.36
2250	.38
2500	.40
2750	.41
3000	.39
3250	.26
3500	.30
3750	.23
3800	.19
3900	.23
4000	.20
4100	.18
4200	.28
4300	.47
4400	.60
4500	.89
4600	.87
4700	.86
4755	.89

N 161

09°15'S
34°00'W
3822 m

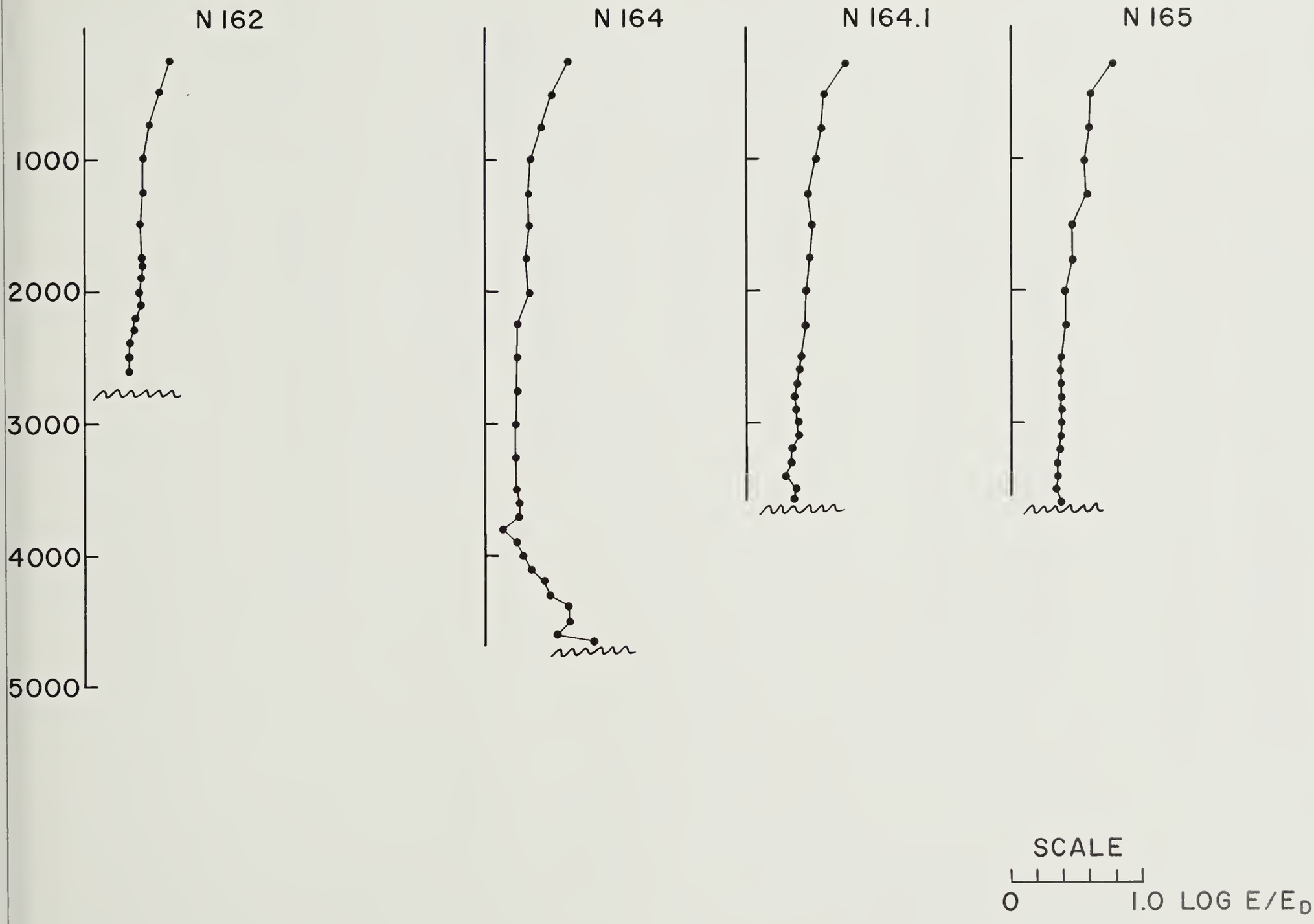
Depth	Log E/E_D
250	.54
500	.49
750	.42
1000	.35
1250	.30
1500	.31
1750	.32
2000	.27
2250	.25
2500	.35
2750	.28
2800	.31
2900	.30
3000	.30
3100	.28
3200	.23
3300	.23
3400	.23
3500	.15
3600	.14
3700	.17
3822	.19


N 157
N 158
N 159
N 160
N 161
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

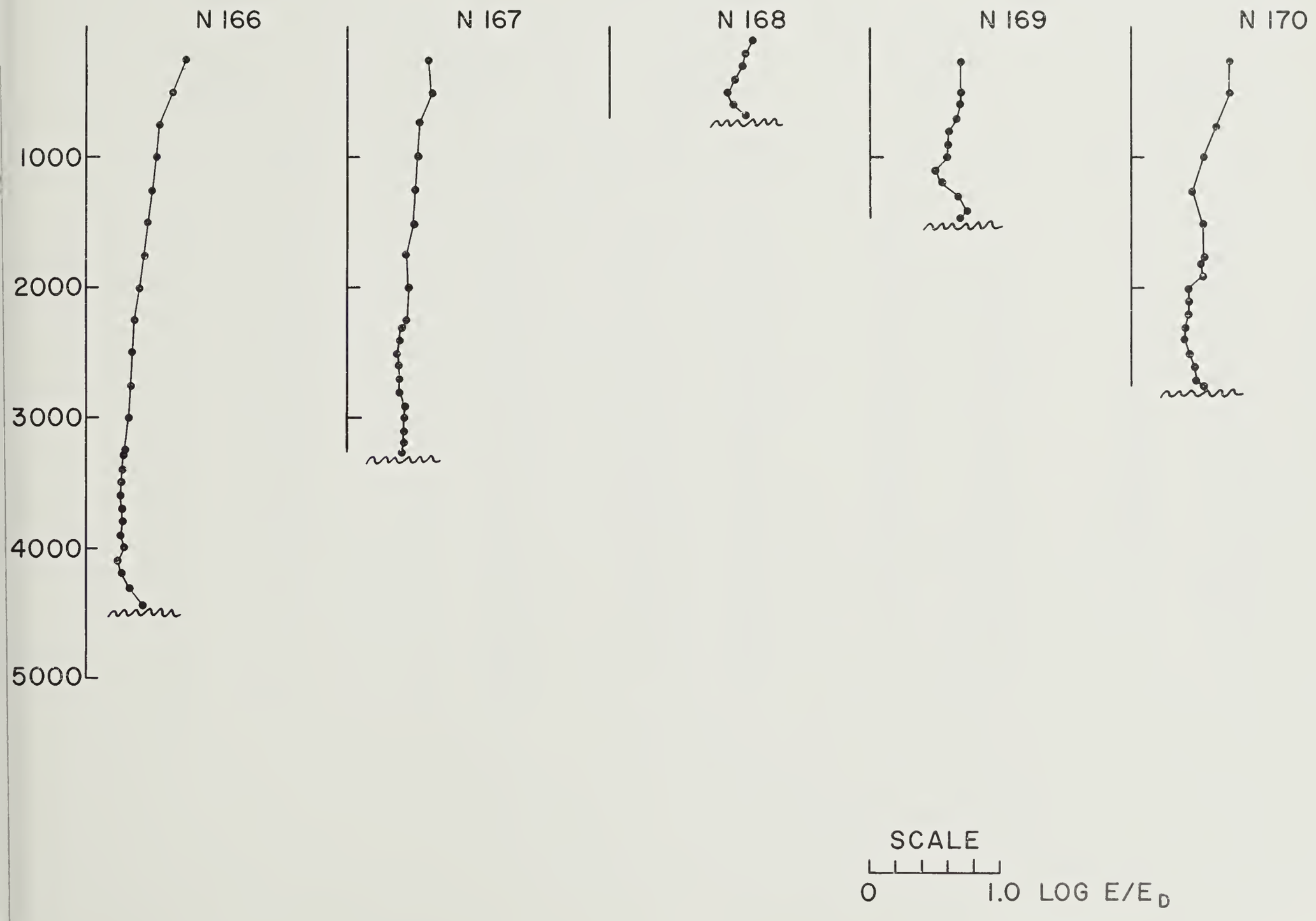
N 163 - Data not available

N 162		N 164		N 164.1		N 165	
08°57'S 34°08'W 2737 m		08°30'S 33°23'W 4666 m		02°54'S 35°56'W 3588 m		01°47'S 37°22'W 3599 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.63	250	.64	250	.73	250	.76
500	.56	500	.51	500	.58	500	.59
750	.49	750	.42	750	.56	750	.57
1000	.42	1000	.36	1000	.50	1000	.53
1250	.44	1250	.33	1250	.46	1250	.56
1500	.42	1500	.37	1500	.49	1500	.45
1750	.43	1750	.31	1750	.47	1750	.45
1800	.43	2000	.33	2000	.43	2000	.40
1900	.42	2250	.27	2250	.42	2250	.39
2000	.41	2500	.25	2500	.40	2500	.38
2100	.42	2750	.24	2600	.39	2600	.38
2200	.39	3000	.24	2700	.37	2700	.36
2300	.38	3250	.22	2800	.36	2800	.37
2400	.35	3500	.25	2900	.36	2900	.36
2500	.35	3600	.28	3000	.37	3000	.38
2600	.36	3700	.27	3100	.38	3100	.38
		3800	.16	3200	.33	3200	.35
		3900	.24	3300	.32	3300	.33
		4000	.30	3400	.29	3400	.34
		4100	.33	3500	.34	3500	.33
		4200	.46	3588	.33	3599	.38
		4300	.50				
		4400	.65				
		4500	.66				
		4600	.56				
		4666	.84				


N 162
N 164
N 164.1
N 165
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

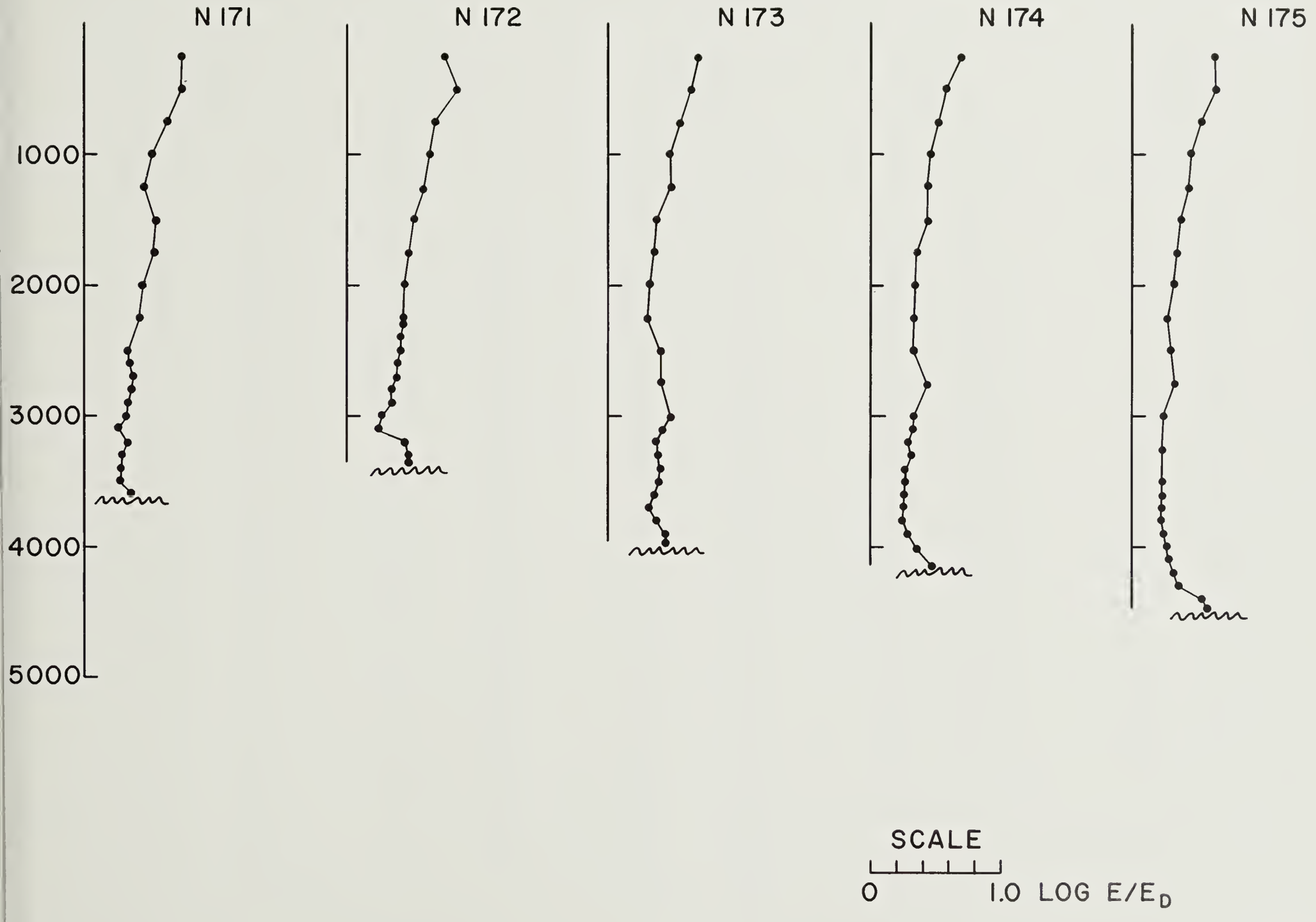
NEPHELOMETER PROFILES

N 166		N 167		N 168		N 169		N 170	
00°17'N 37°44'W 4424 m		00°29'N 43°05'W 3256 m		03°24'N 48°26'W 685 m		03°35'N 47°54'W 1475 m		03°27'N 46°43'W 2774 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.77	250	.62	100	1.10	250	.70	250	.73
500	.67	500	.65	200	1.04	500	.70	500	.76
750	.57	750	.55	300	1.02	600	.69	750	.64
1000	.55	1000	.53	400	.96	700	.67	1000	.54
1250	.51	1250	.52	500	.91	800	.60	1250	.48
1500	.47	1500	.51	600	.95	900	.60	1500	.55
1750	.43	1750	.47	685	1.04	1000	.59	1750	.55
2000	.42	2000	.48			1100	.51	1800	.54
2250	.38	2250	.46			1200	.54	1900	.54
2500	.37	2300	.41			1300	.69	2000	.44
2750	.34	2400	.39			1400	.73	2100	.44
3000	.32	2500	.38			1475	.70	2200	.43
3250	.31	2600	.40					2300	.41
3300	.29	2700	.40					2400	,41
3400	.29	2800	.40					2500	.45
3500	.28	2900	.44					2600	.49
3600	.28	3000	.43					2700	.51
3700	.29	3100	.42					2774	.55
3800	.29	3200	.41						
3900	.29	3256	.41						
4000	.30								
4100	.26								
4200	.28								
4300	.33								
4424	.42								


N 166
N 167
N 168
N 169
N 170
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E D

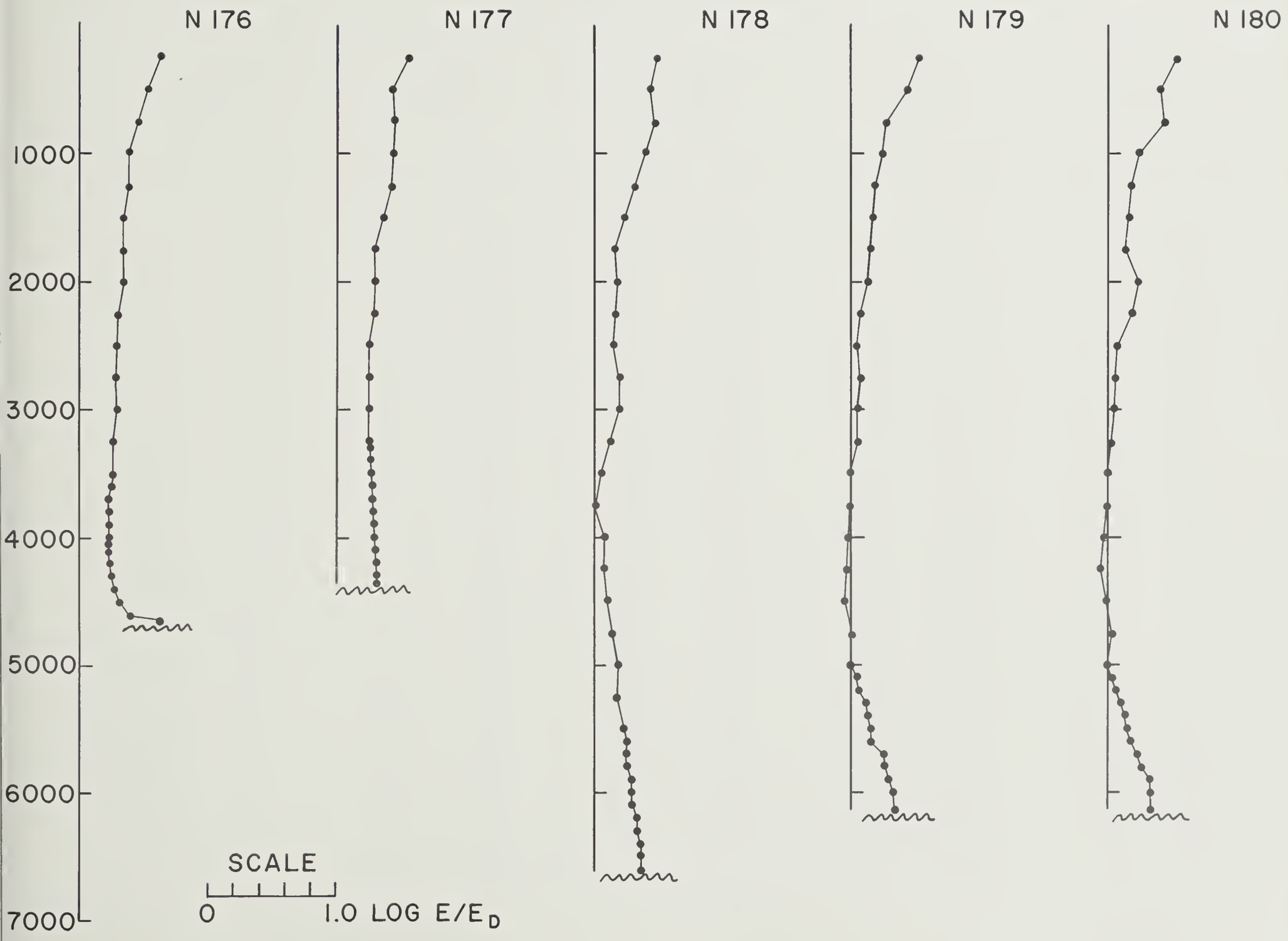
NEPHELOMETER PROFILES

N 171		N 172		N 173		N 174		N 175	
04°25'N 46°14'W 3594 m		05°39'N 48°59'W 3340 m		06°15'N 47°35'W 3951 m		05°56'N 45°23'W 4113 m		07°53'N 45°56'W 4484 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.73	250	.76	250	.68	250	.70	250	.64
500	.73	500	.83	500	.63	500	.58	500	.64
750	.62	750	.69	750	.54	750	.52	750	.52
1000	.51	1000	.63	1000	.47	1000	.47	1000	.46
1250	.46	1250	.60	1250	.48	1250	.45	1250	.43
1500	.55	1500	.51	1500	.39	1500	.45	1500	.38
1750	.52	1750	.49	1750	.35	1750	.36	1750	.33
2000	.46	2000	.45	2000	.31	2000	.35	2000	.31
2250	.42	2250	.45	2250	.30	2250	.33	2250	.28
2500	.35	2300	.45	2500	.40	2500	.32	2500	.30
2600	.37	2400	.41	2750	.39	2750	.43	2750	.32
2700	.39	2500	.41	3000	.49	3000	.32	3000	.25
2800	.36	2600	.40	3100	.41	3100	.32	3250	.24
2900	.32	2700	.39	3200	.38	3200	.29	3500	.23
3000	.33	2800	.34	3300	.39	3300	.31	3600	.22
3100	.27	2900	.35	3400	.40	3400	.28	3700	.22
3200	.32	3000	.29	3500	.39	3500	.27	3800	.22
3300	.30	3100	.27	3600	.36	3600	.27	3900	.25
3400	.29	3200	.46	3700	.31	3700	.27	4000	.27
3500	.29	3300	.48	3800	.36	3800	.27	4100	.29
3594	.37	3340	.48	3900	.42	3900	.29	4200	.32
				3951	.42	4000	.36	4300	.35
						4113	.45	4400	.54
								4484	.58


N 171
N 172
N 173
N 174
N 175
1000
2000
3000
4000
5000
SCALE
0
1.0 LOG E/E$_D$

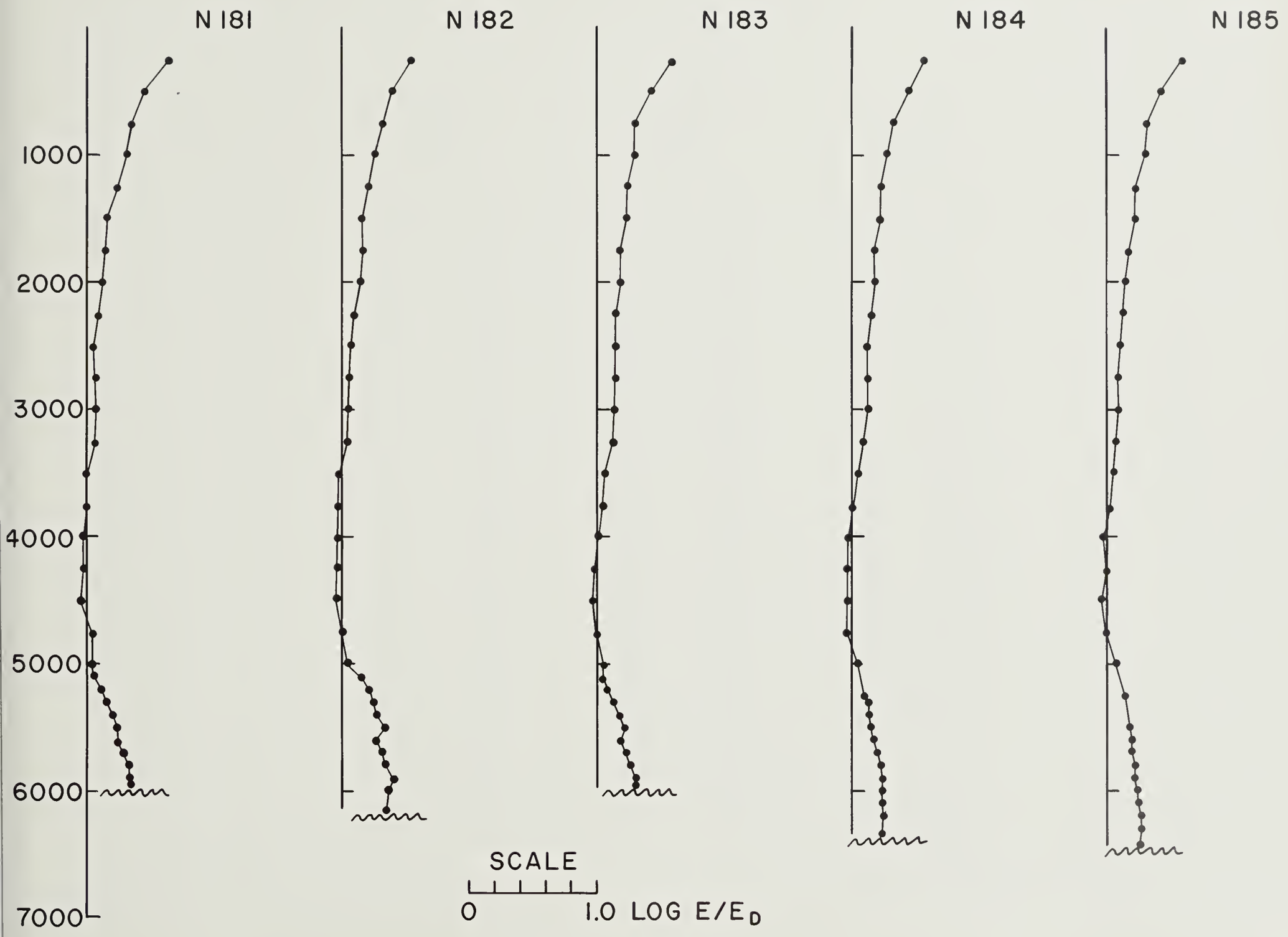
NEPHELOMETER PROFILES

N 176		N 177		N 178		N 179		N 180	
08°43'N 46°56'W 4630 m		17°54'N 64°51'W 4358 m		19°49'N 63°06'W 6608 m		24°19'N 58°45'W 6126 m		24°21'N 58°44'W 6118 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.63	250	.54	250	.49	250	.53	250	.54
500	.55	500	.41	500	.43	500	.44	500	.41
750	.47	750	.46	750	.47	750	.28	750	.43
1000	.40	1000	.44	1000	.41	1000	.25	1000	.26
1250	.39	1250	.43	1250	.32	1250	.19	1250	.19
1500	.36	1500	.38	1500	.23	1500	.17	1500	.16
1750	.34	1750	.30	1750	.17	1750	.15	1750	.13
2000	.33	2000	.31	2000	.19	2000	.12	2000	.23
2250	.30	2250	.29	2250	.17	2250	.08	2250	.19
2500	.30	2500	.27	2500	.16	2500	.06	2500	.08
2750	.29	2750	.26	2750	.20	2750	.08	2750	.05
3000	.29	3000	.26	3000	.20	3000	.05	3000	.04
3250	.28	3250	.26	3250	.11	3250	.05	3250	.02
3500	.28	3300	.27	3500	.04	3500	.00	3500	.00
3600	.26	3400	.27	3750	.01	3750	.00	3750	.00
3700	.22	3500	.28	4000	.08	4000	-.02	4000	-.02
3800	.24	3600	.28	4250	.07	4250	-.03	4250	-.05
3900	.24	3700	.29	4500	.10	4500	-.04	4500	.00
4000	.23	3800	.29	4750	.15	4750	.02	4750	.04
4100	.23	3900	.29	5000	.20	5000	.00	5000	.00
4200	.24	4000	.30	5250	.19	5100	.06	5100	.03
4300	.27	4100	.31	5500	.23	5200	.09	5200	.09
4400	.29	4200	.31	5600	.27	5300	.12	5300	.11
4500	.32	4300	.32	5700	.26	5400	.14	5400	.13
4600	.41	4358	.32	5800	.28	5500	.17	5500	.16
4630	.63			5900	.30	5600	.18	5600	.19
				6000	.30	5700	.27	5700	.24
				6100	.30	5800	.28	5800	.29
				6200	.34	5900	.31	5900	.32
				6300	.34	6000	.33	6000	.34
				6400	.37	6126	.34	6118	.36
				6500	.37				
				6608	.38				


N 176
N 177
N 178
N 179
N 180
1000
2000
3000
4000
5000
6000
7000
SCALE
0
1.0 LOG E/E D

NEPHELOMETER PROFILES

N 181		N 182		N 183		N 184		N 185	
24°36'N		25°46'N		28°30'N		27°55'N		26°51'N	
58°47'W		58°47'W		58°59'W		59°12'W		59°18'W	
5941 m		6136 m		5957 m		6319 m		6414 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.63	250	.57	250	.60	250	.59	250	.61
500	.42	500	.39	500	.42	500	.46	500	.44
750	.33	750	.31	750	.31	750	.33	750	.32
1000	.30	1000	.27	1000	.29	1000	.30	1000	.31
1250	.22	1250	.21	1250	.24	1250	.25	1250	.22
1500	.16	1500	.16	1500	.22	1500	.24	1500	.22
1750	.15	1750	.18	1750	.19	1750	.19	1750	.19
2000	.11	2000	.15	2000	.19	2000	.19	2000	.15
2250	.09	2250	.10	2250	.16	2250	.17	2250	.14
2500	.04	2500	.07	2500	.15	2500	.12	2500	.11
2750	.07	2750	.07	2750	.14	2750	.13	2750	.09
3000	.08	3000	.05	3000	.12	3000	.12	3000	.09
3250	.06	3250	.04	3250	.12	3250	.09	3250	.08
3500	.00	3500	-.01	3500	.07	3500	.07	3500	.04
3750	.01	3750	-.02	3750	.04	3750	.01	3750	.02
4000	-.02	4000	-.02	4000	.02	4000	.00	4000	.00
4250	-.02	4250	-.04	4250	.00	4250	-.02	4250	.00
4500	-.05	4500	-.04	4500	-.03	4500	-.02	4500	-.03
4750	.04	4750	.00	4750	.00	4750	-.03	4750	.00
5000	.04	5000	.04	5000	.05	5000	.06	5000	.05
5100	.07	5100	.17	5100	.05	5250	.11	5250	.15
5200	.12	5200	.22	5200	.10	5300	.15	5500	.19
5300	.17	5300	.25	5300	.15	5400	.13	5600	.20
5400	.21	5400	.28	5400	.19	5500	.16	5700	.19
5500	.23	5500	.33	5500	.22	5600	.19	5800	.22
5600	.27	5600	.29	5600	.20	5700	.21	5900	.22
5700	.30	5700	.32	5700	.23	5800	.22	6000	.24
5800	.33	5800	.35	5800	.28	5900	.24	6100	.26
5900	.35	5900	.41	5900	.31	6000	.22	6200	.28
5941	.36	6000	.38	5957	.31	6100	.25	6300	.29
		6136	.38			6200	.26	6414	.28
						6319	.24		


N 181
N 182
N 183
N 184
N 185
1000
2000
3000
4000
5000
6000
7000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

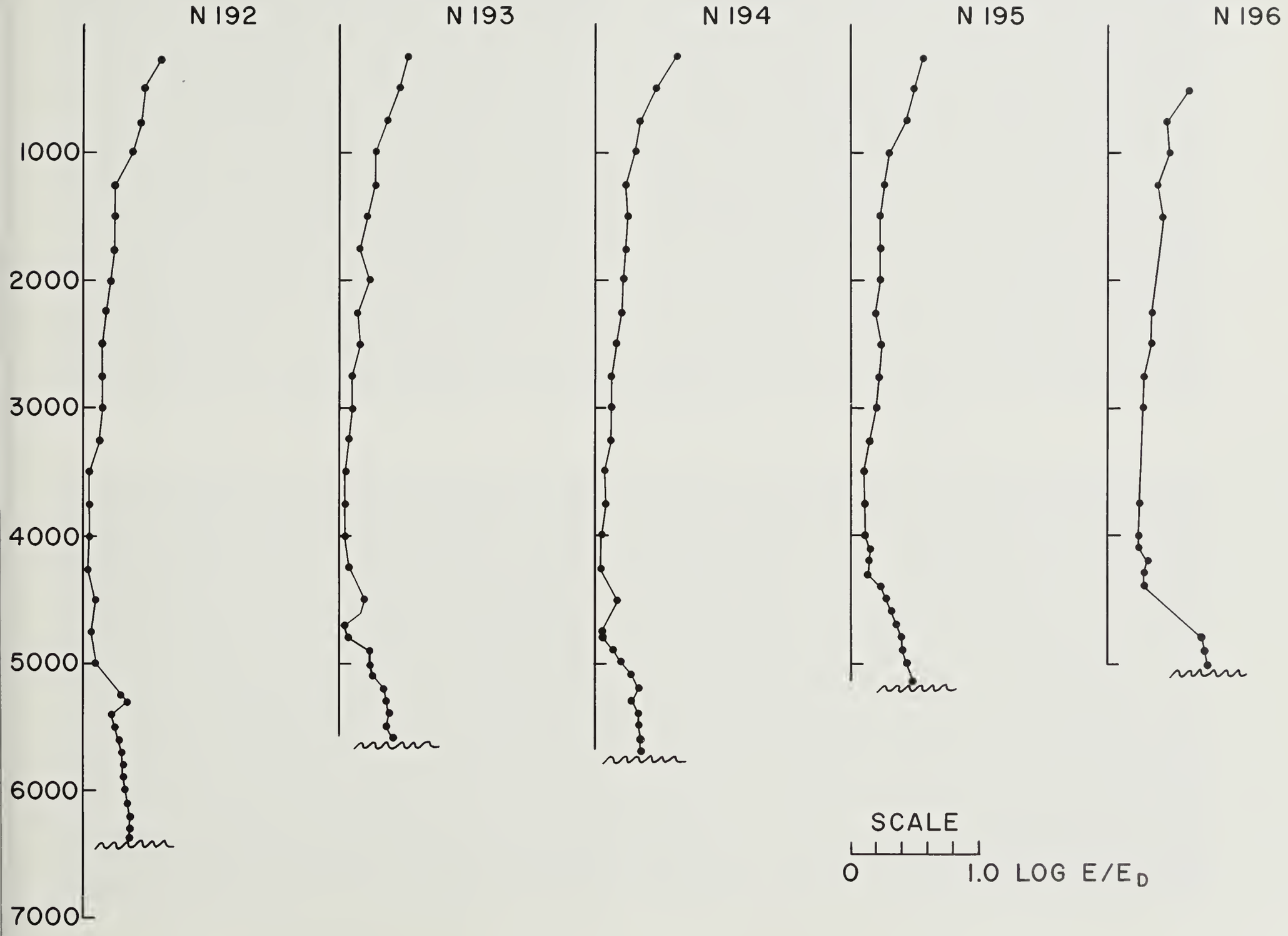
N 189 - Data not available

N 186		N 187		N 188		N 190		N 191	
26°36'N		27°25'N		27°43'N		29°05'N		27°57'N	
59°51'W		59°43'W		59°46'W		60°53'W		60°51'W	
5399 m		5767 m		5334 m		5306 m		6136 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.58	250	.54	250	.56	250	.68	250	.66
500	.48	500	.42	500	.51	500	.57	500	.45
750	.35	750	.34	750	.34	750	.39	750	.35
1000	.34	1000	.29	1000	.32	1000	.33	1000	.30
1250	.25	1250	.26	1250	.27	1250	.25	1250	.20
1500	.22	1500	.22	1500	.22	1500	.22	1500	.19
1750	.21	1750	.23	1750	.21	1750	.24	1750	.18
2000	.17	2000	.18	2000	.16	2000	.23	2000	.15
2250	.13	2250	.13	2250	.11	2250	.16	2250	.11
2500	.13	2500	.11	2500	.14	2500	.13	2500	.14
2750	.11	2750	.10	2750	.17	2750	.11	2750	.08
3000	.11	3000	.10	3000	.14	3000	.11	3000	.08
3250	.10	3250	.09	3250	.11	3250	.10	3250	.12
3500	.07	3500	.03	3500	.03	3500	.03	3500	.03
3750	.04	3750	.03	3750	.03	3750	.03	3750	.01
4000	.00	4000	-.01	4000	.00	4000	.00	4000	.00
4250	.00	4250	-.01	4250	.00	4250	.04	4250	-.03
4300	.00	4500	-.03	4300	.01	4300	.05	4500	-.05
4400	-.03	4750	.01	4400	-.05	4400	.24	4750	-.04
4500	-.04	4800	.01	4500	-.04	4500	.39	5000	.03
4600	-.01	4900	.01	4600	.00	4600	.44	5100	.07
4700	.00	5000	.07	4700	-.02	4700	.45	5200	.14
4800	.00	5100	.10	4800	-.01	4800	.38	5300	.18
4900	.04	5200	.12	4900	.00	4900	.28	5400	.20
5000	.08	5300	.16	5000	.04	5000	.29	5500	.22
5100	.15	5400	.21	5100	.14	5100	.29	5600	.23
5200	.18	5500	.23	5200	.12	5200	.29	5700	.25
5300	.19	5600	.23	5334	.17	5306	.29	5800	.26
5399	.22	5700	.23					5900	.28
		5767	.24					6000	.27
								6136	.26


N 186
N 187
N 188
N 190
N 191
1000
2000
3000
4000
5000
6000
7000
SCALE
0
1.0 LOG E/E$_D$

NEPHELOMETER PROFILES

N 192		N 193		N 194		N 195		N 196	
27°55'N 61°16'W 6356 m		27°52'N 61°35'W 5595 m		28°20'N 62°17'W 5700 m		29°30'N 65°29'W 5123 m		31°02'N 67°09'W 5012 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.60	250	.53	250	.63	250	.57	500	.63
500	.49	500	.48	500	.48	500	.50	750	.48
750	.36	750	.38	750	.35	750	.43	1000	.49
1000	.30	1000	.29	1000	.31	1000	.30	1250	.41
1250	.24	1250	.28	1250	.26	1250	.25	1500	.43
1500	.24	1500	.21	1500	.27	1500	.22	2250	.37
1750	.24	1750	.16	1750	.24	1750	.22	2500	.33
2000	.21	2000	.22	2000	.21	2000	.22	2750	.30
2250	.17	2250	.16	2250	.21	2250	.19	3000	.28
2500	.14	2500	.18	2500	.17	2500	.22	3750	.25
2750	.15	2750	.10	2750	.14	2750	.21	4000	.26
3000	.16	3000	.10	3000	.14	3000	.19	4100	.26
3250	.12	3250	.08	3250	.12	3250	.13	4200	.31
3500	.06	3500	.03	3500	.08	3500	.10	4300	.29
3750	.05	3750	.03	3750	.09	3750	.11	4400	.29
4000	.04	4000	.04	4000	.04	4000	.11	4800	.76
4250	.03	4250	.09	4250	.04	4100	.16	4900	.78
4500	.09	4500	.20	4500	.17	4200	.14	5012	.80
4750	.07	4600	.18	4750	.05	4300	.14		
5000	.10	4700	.04	4800	.05	4400	.24		
5250	.30	4800	.07	4900	.15	4500	.27		
5300	.33	4900	.24	5000	.21	4600	.31		
5400	.22	5000	.25	5100	.29	4700	.36		
5500	.26	5100	.27	5200	.33	4800	.39		
5600	.28	5200	.34	5300	.30	4900	.40		
5700	.30	5300	.37	5400	.33	5000	.42		
5800	.31	5400	.39	5500	.33	5123	.49		
5900	.31	5500	.38	5600	.36				
6000	.33	5595	.41	5700	.34				
6100	.35								
6200	.37								
6300	.36								
6356	.37								


N 192
N 193
N 194
N 195
N 196
1000
2000
3000
4000
5000
6000
7000
SCALE
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1.0 LOG E/E$_D$

K1-5

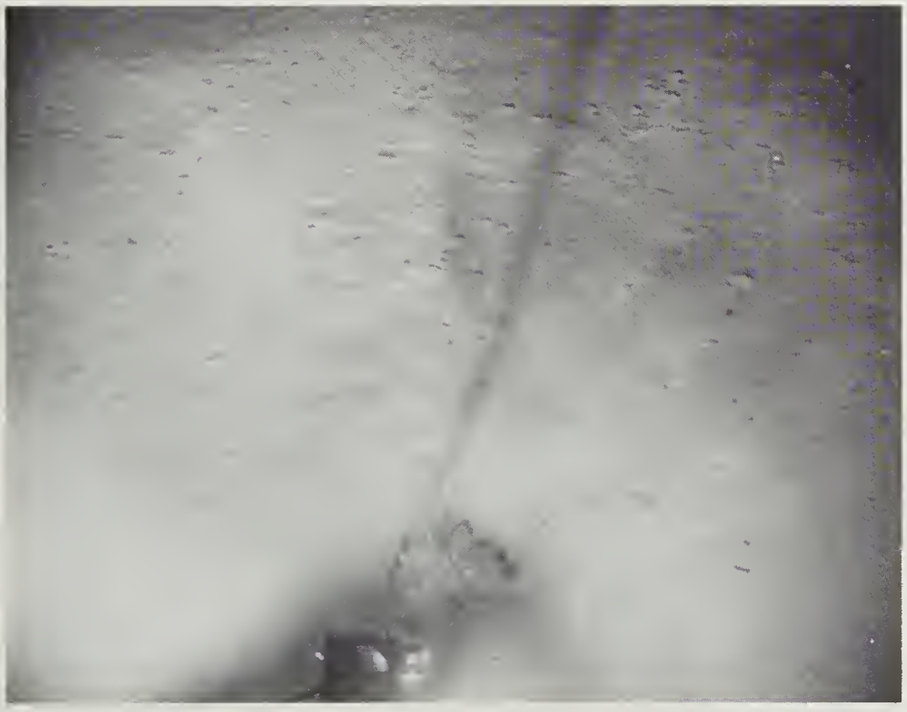
K1-15

K2-2

K2-7

K3-4

K3-8



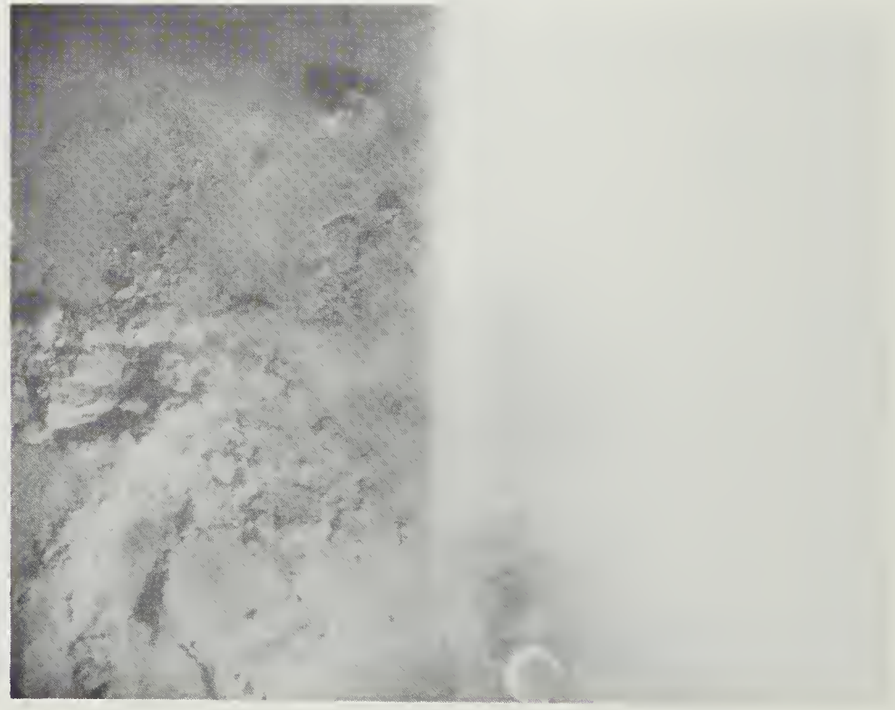
K4-11

K 5-2

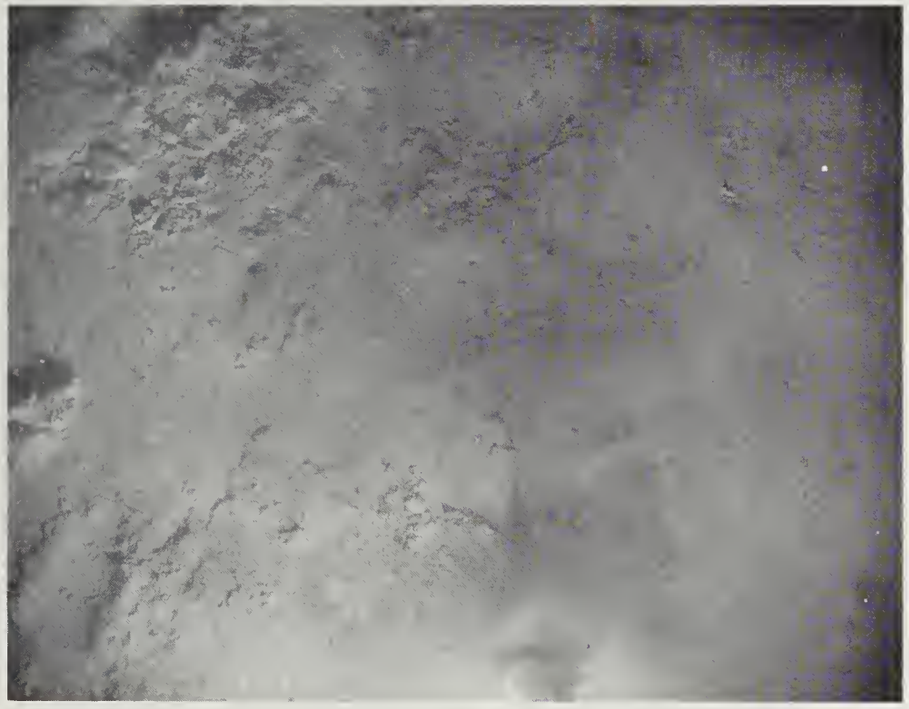
K5-11

K6-8

K6-10

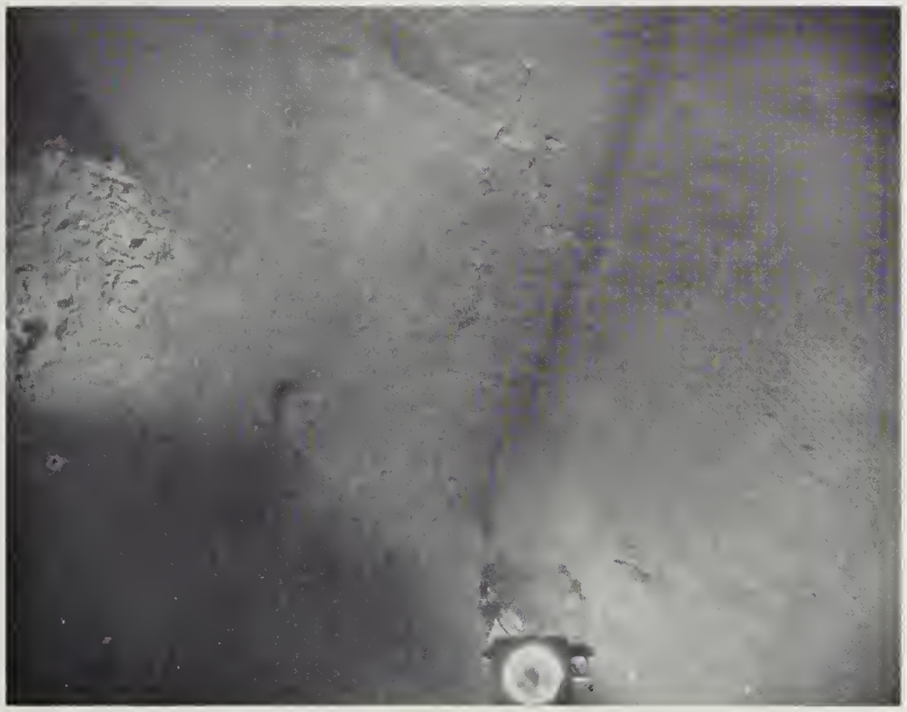


K7-1



K7-4

K8-1



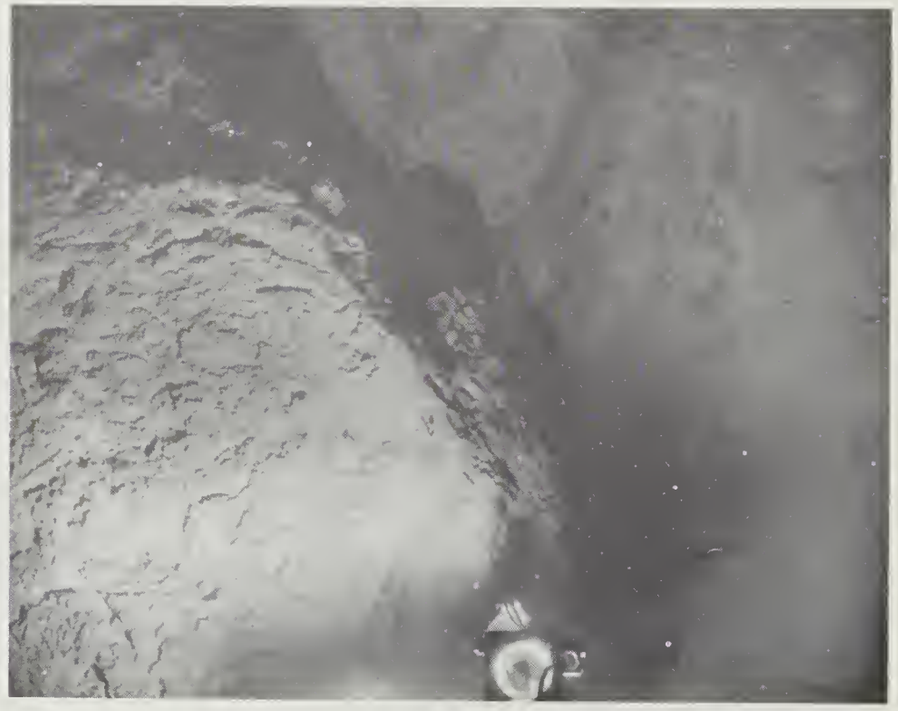
K8-3

K9-7

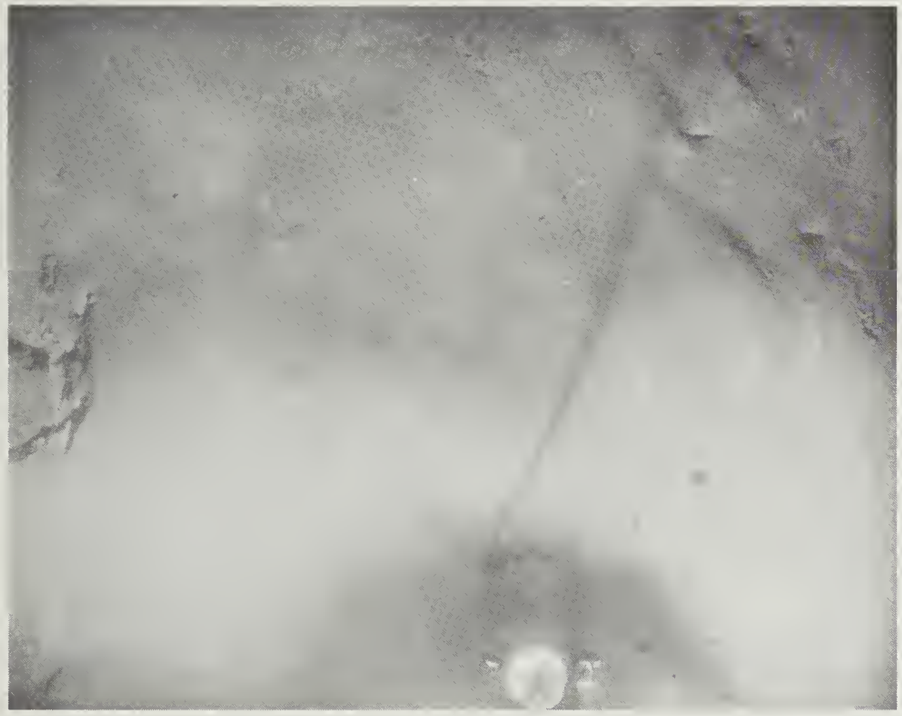
K9-8

K10-3

K10-5



K10-7



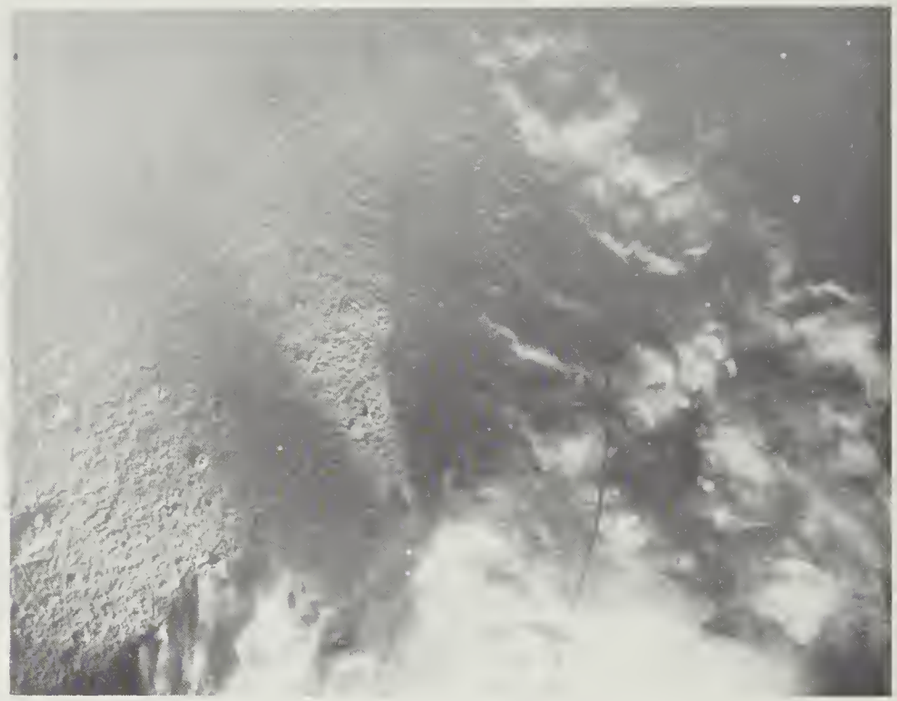
K10 - 14

K11- 2

K11-6

K12-6

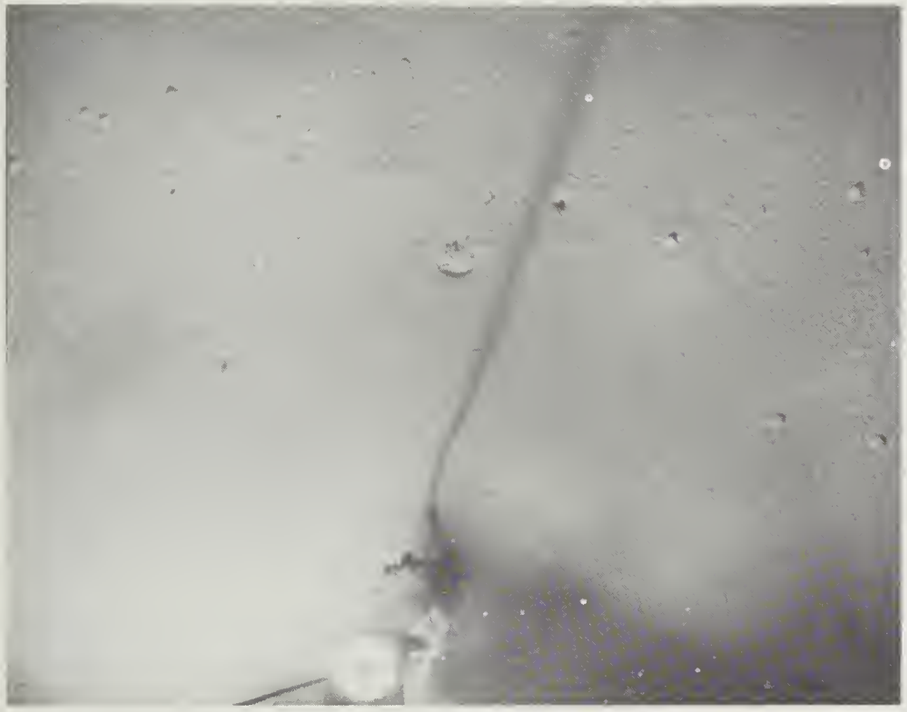
K12-14



K13-4

K13-5

K14-2



K15-5

K16-3

K17-4

K17-6

K18-4

K18-11

K19-3

K19-10

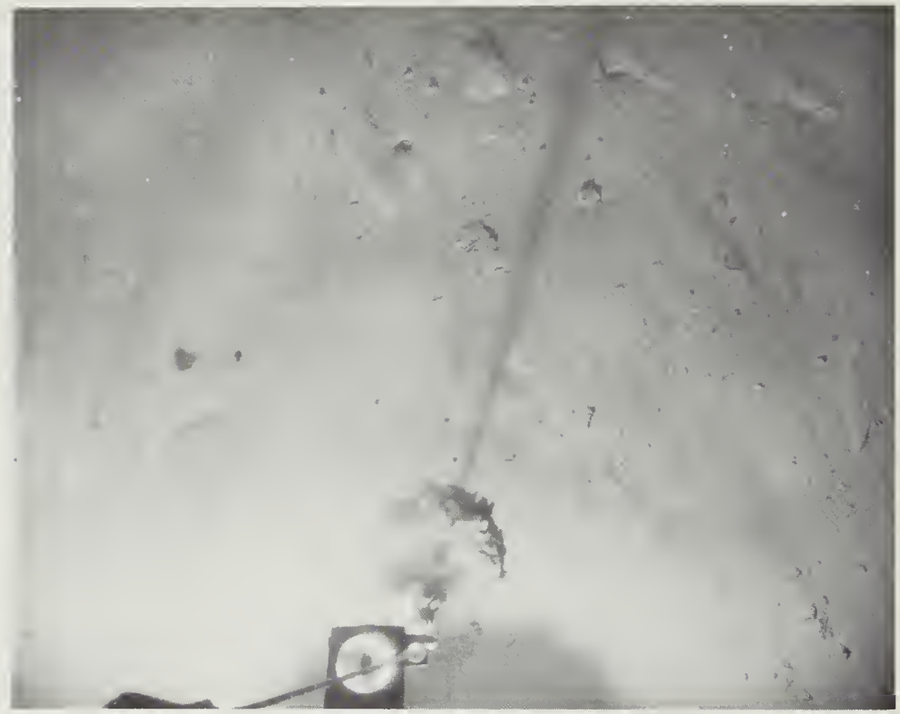
K19-15

K20-3

K20-9

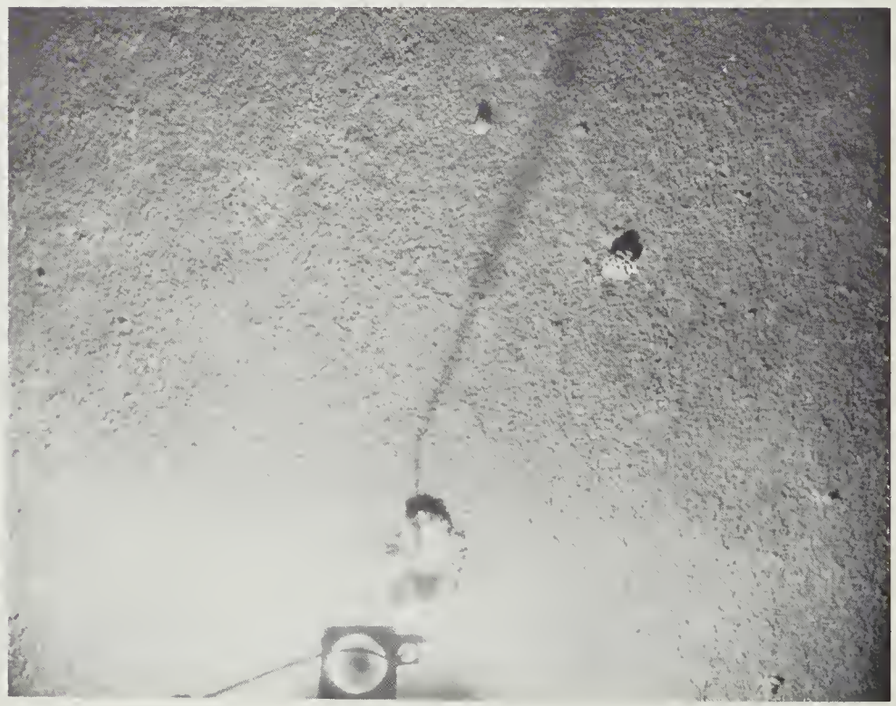
K20-11

K21-7



K21-10

K22-3

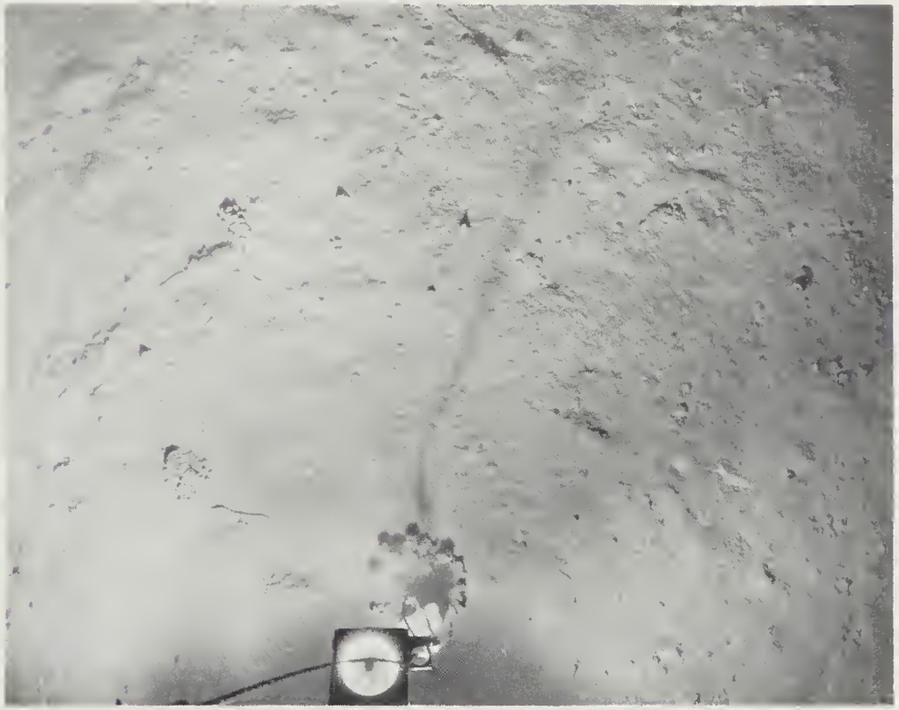


K22-5

K23-12

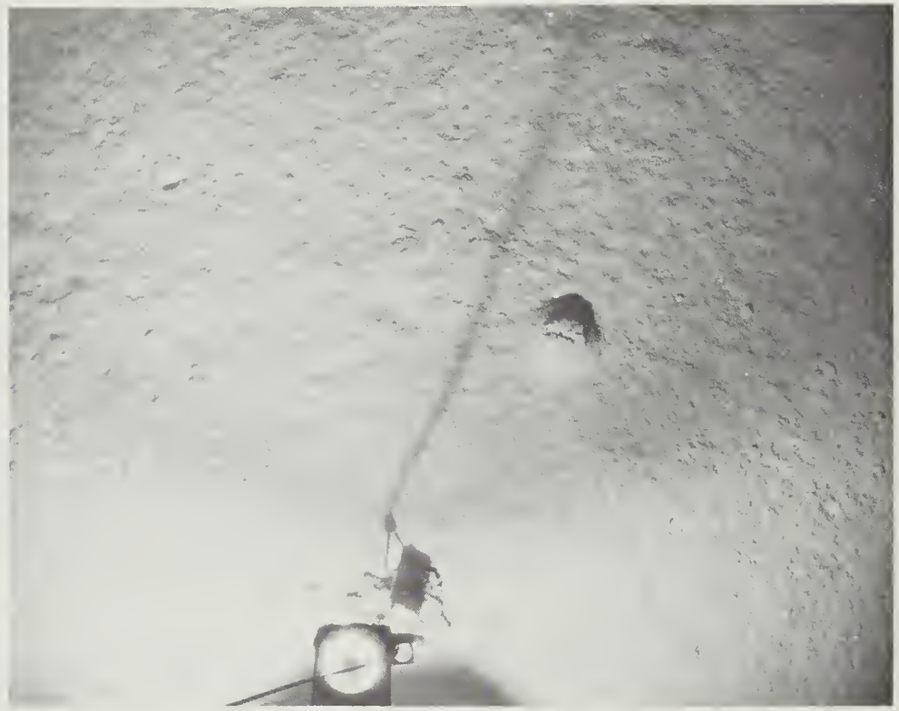
K23-13

K24-2



K24-7

K24-11



K25-4

K25-13

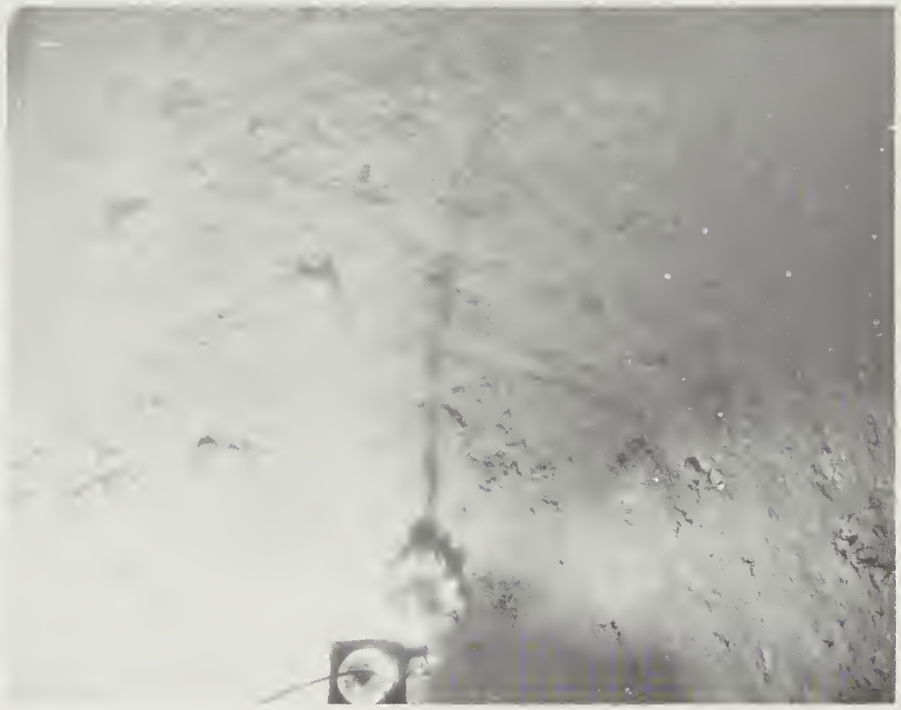
K26-1

K27-1

K27-8

K28-1

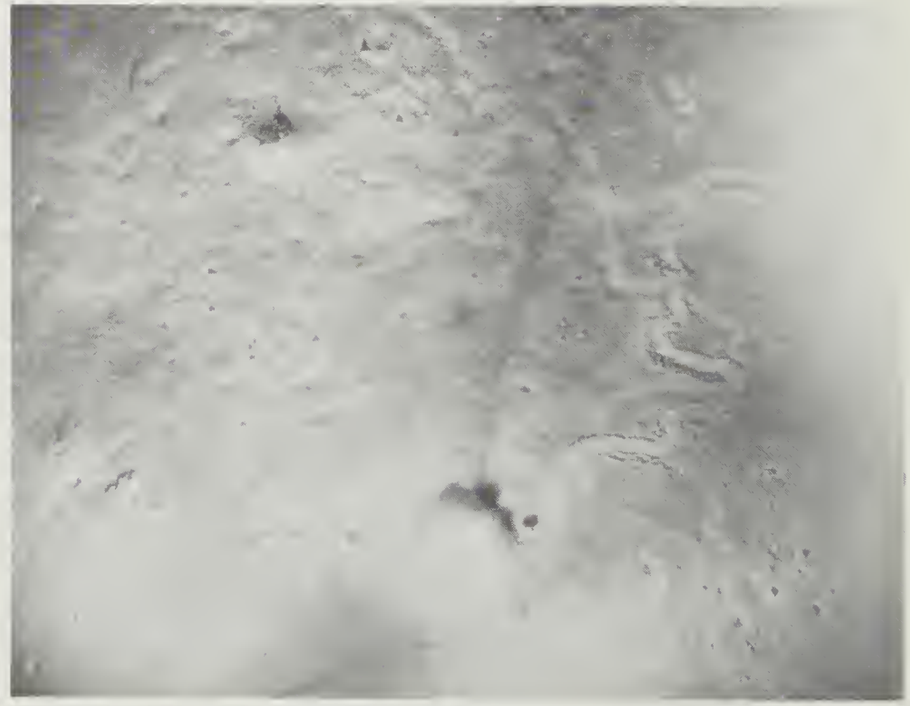
K28-3



K28-7

K29-1

K29-3

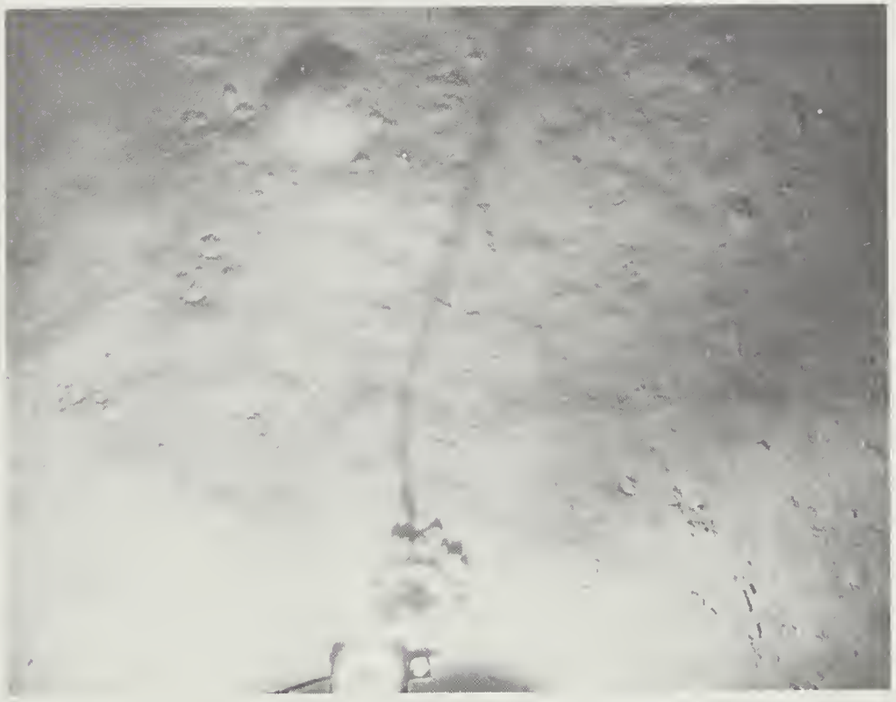


K30-1

K31-2

K32-2

K33-4



K33-6

K34-2

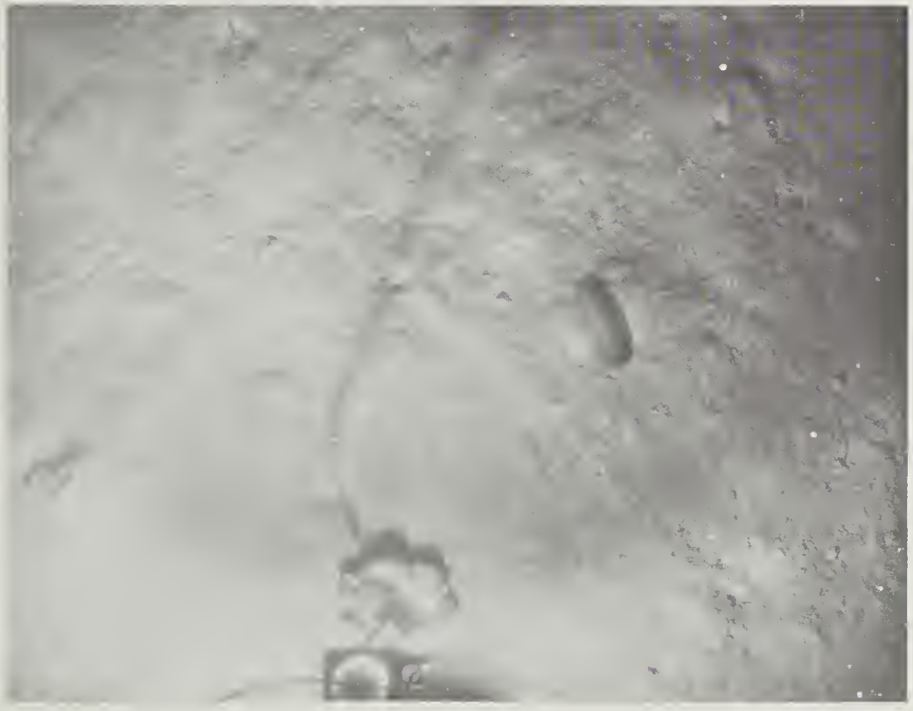
K34-9

K35-4

K35-9

K36-1

K36-3



K37-4

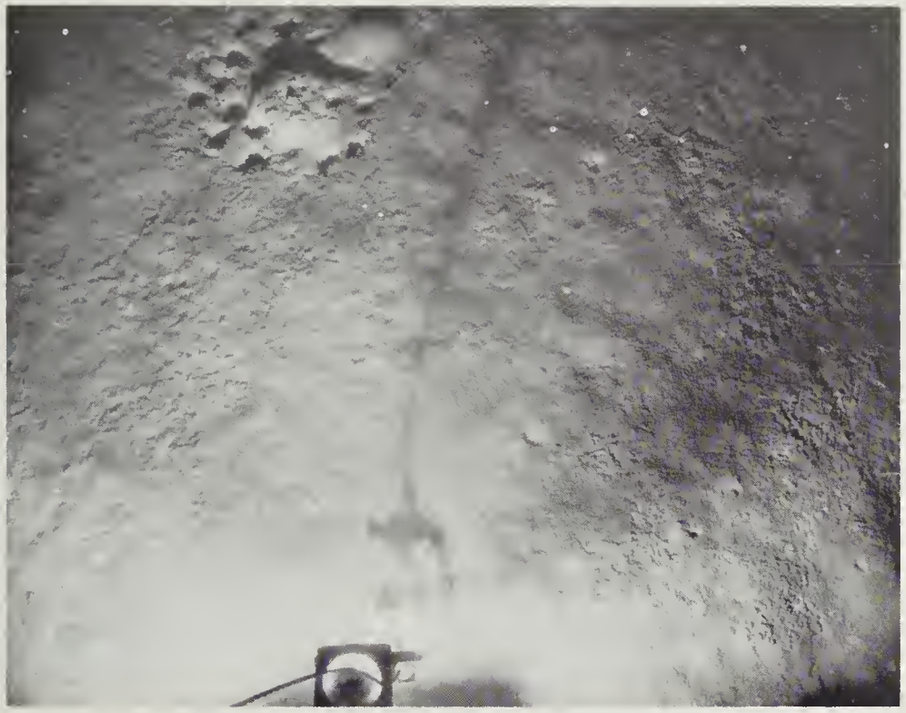
K37-6

K38-5

K38-10

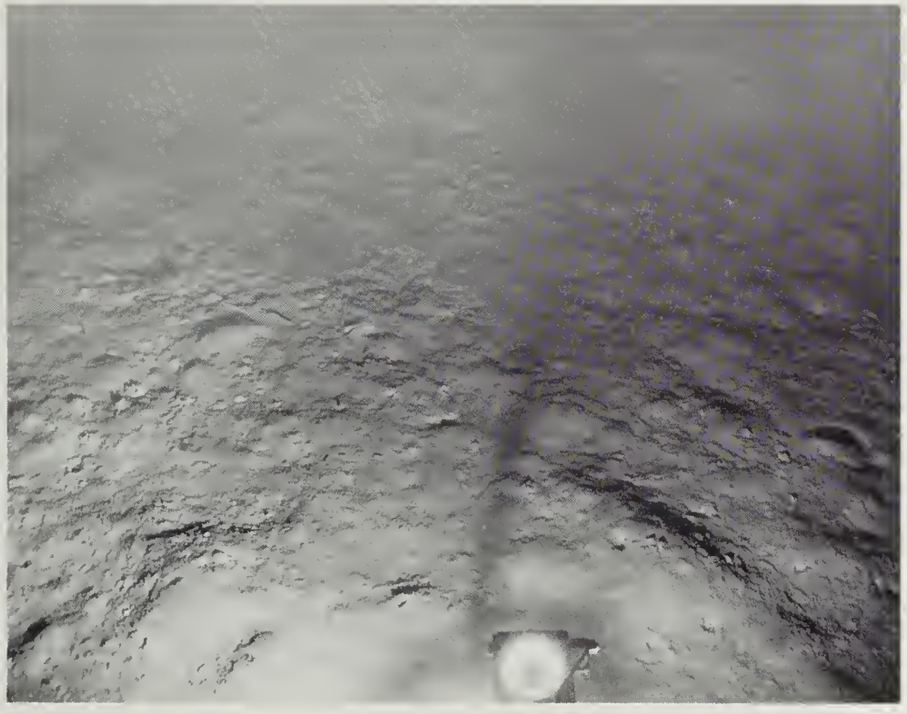
K38-14

K39-12



K39-13

K40-2



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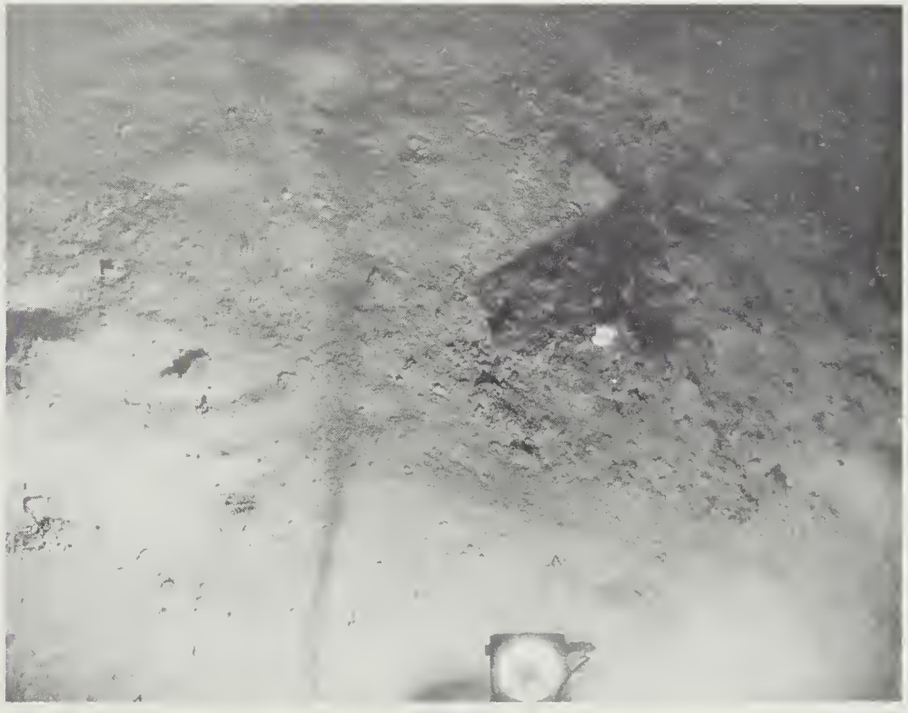
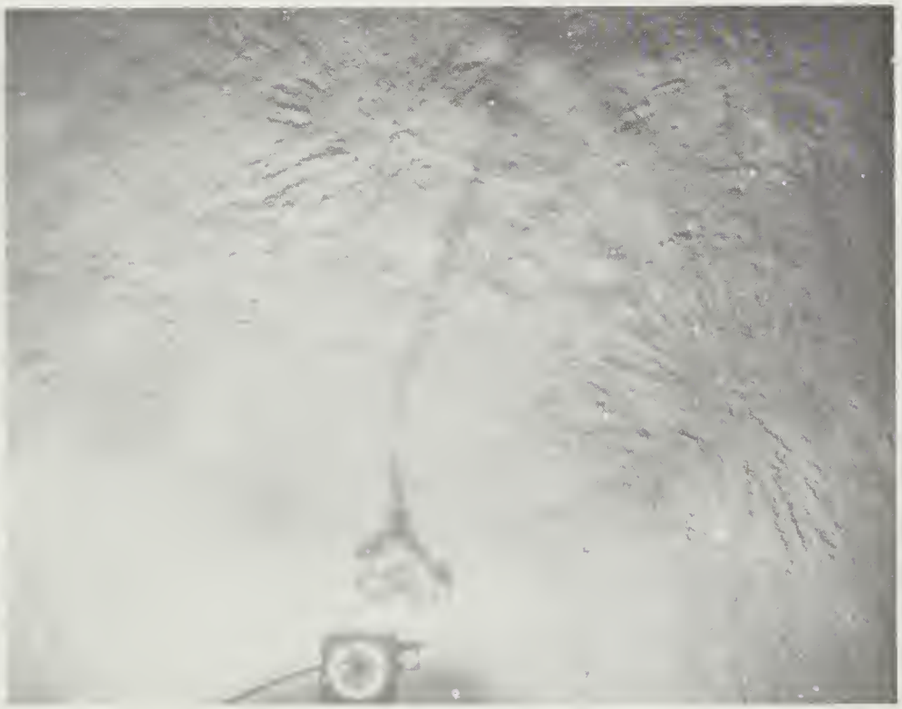


K40-8

K41-9

K41-10

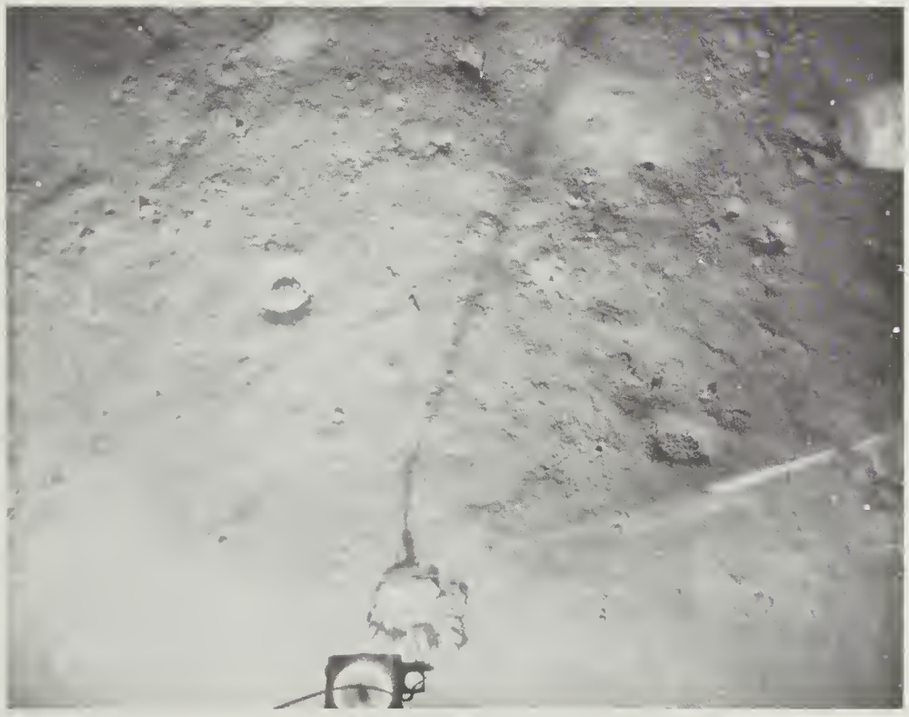


K42-9

K42-14

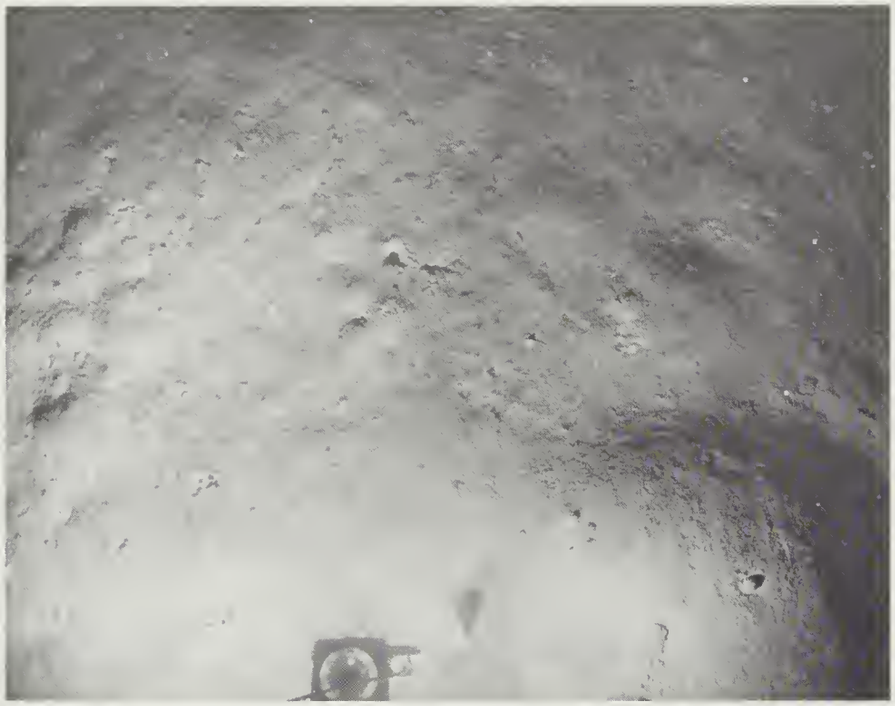
K42-15

K43-10



K44-1

K44-2



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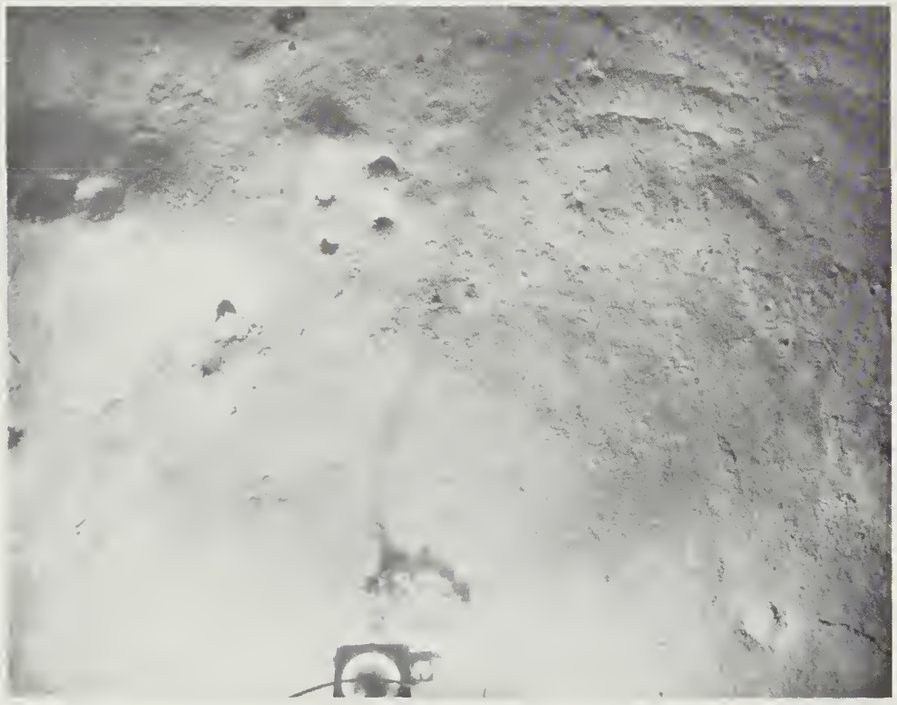
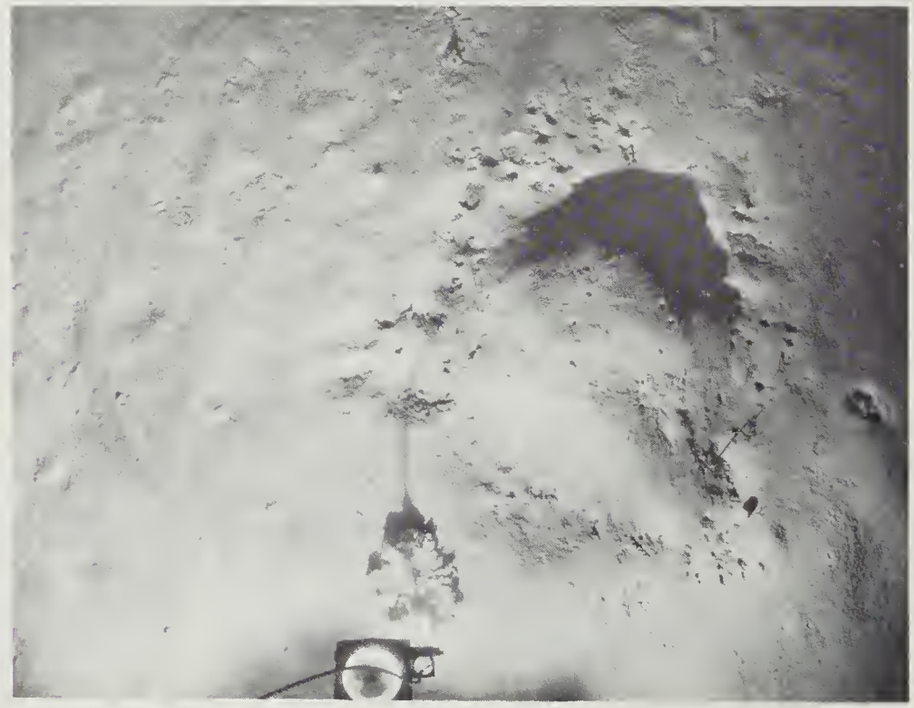
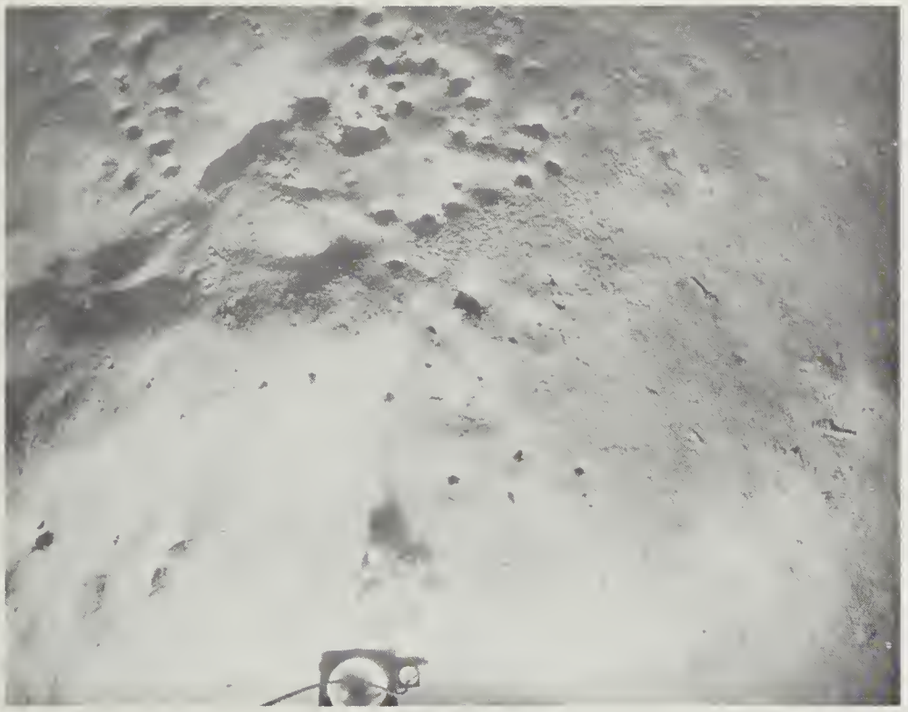
K44-14



K45-2



K45-9



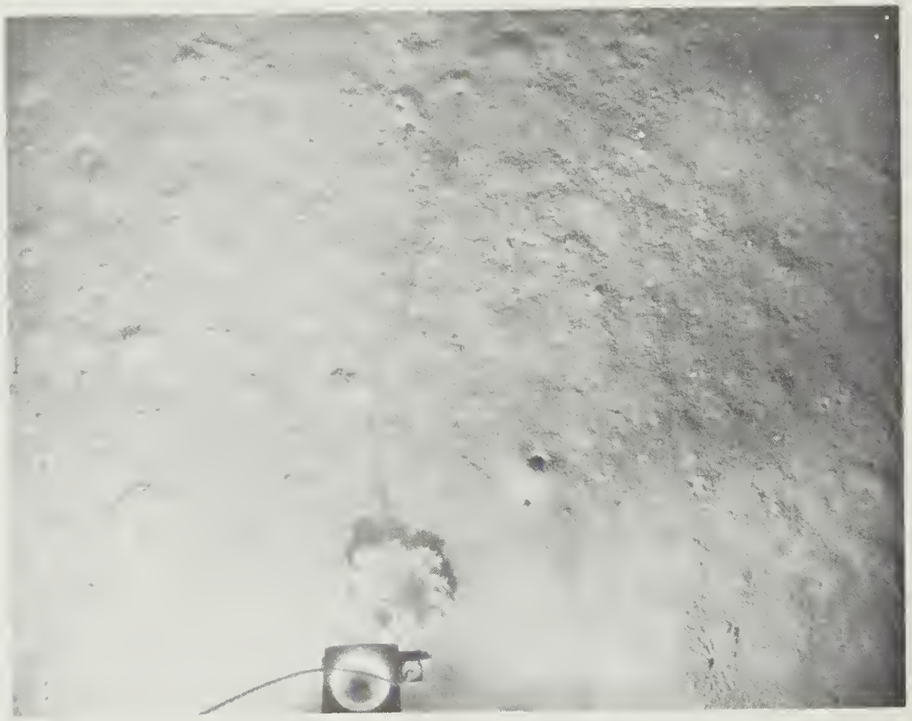
K45-12

K46-3

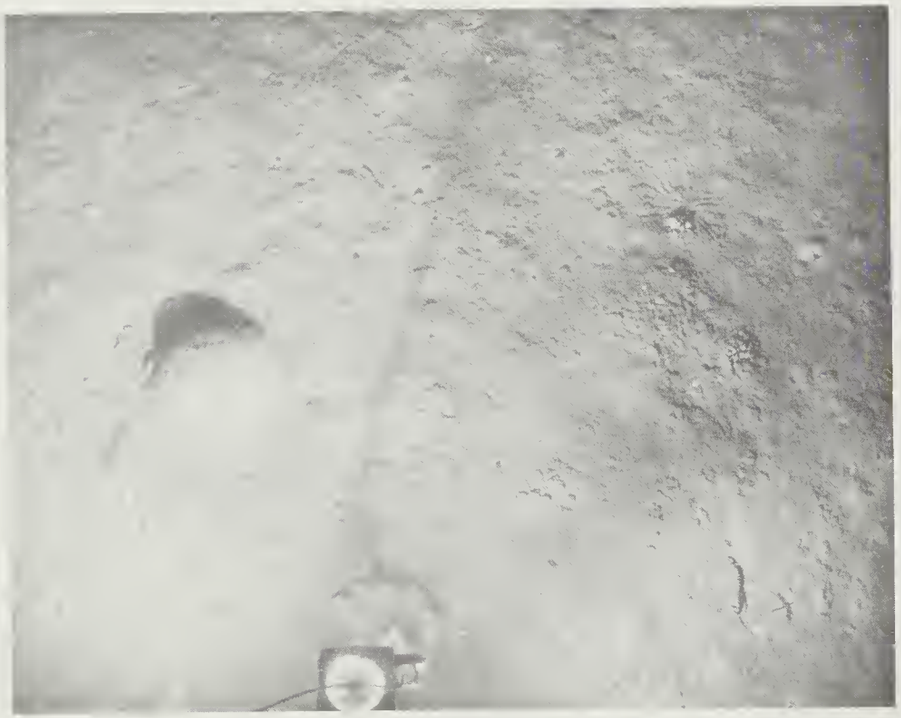
K46-5

K47-1

K48-1



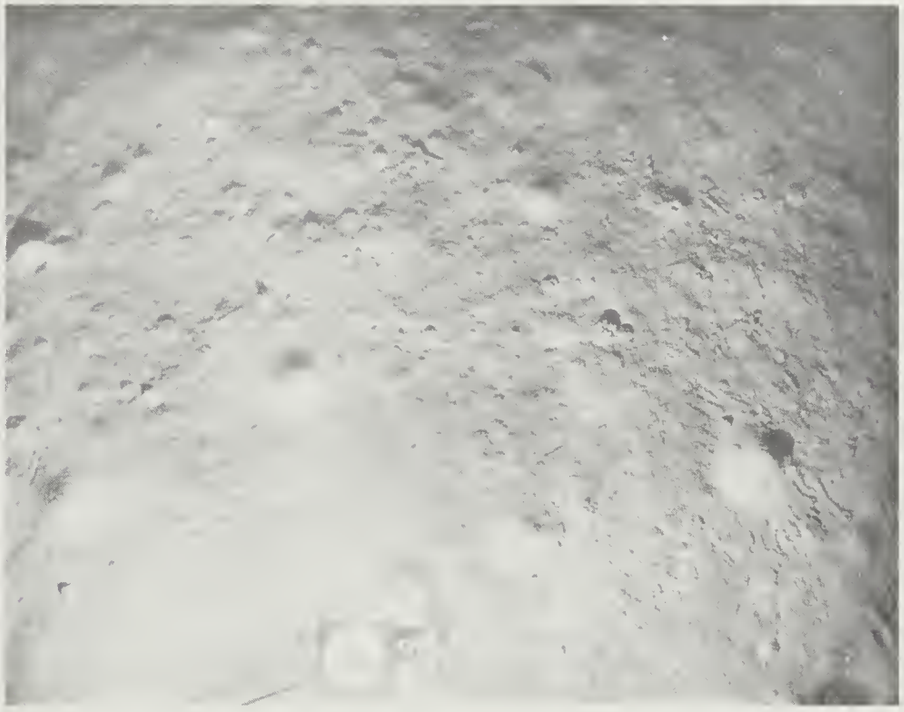
K48-8



K49-2

K49-14

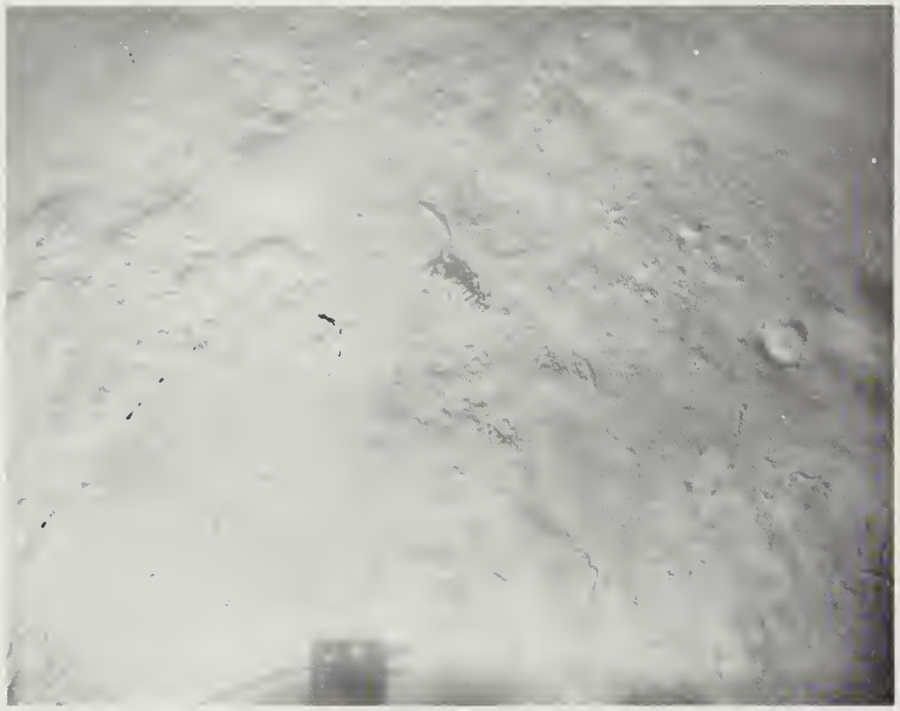
K50-8



K50-11

K51-1

K51-7

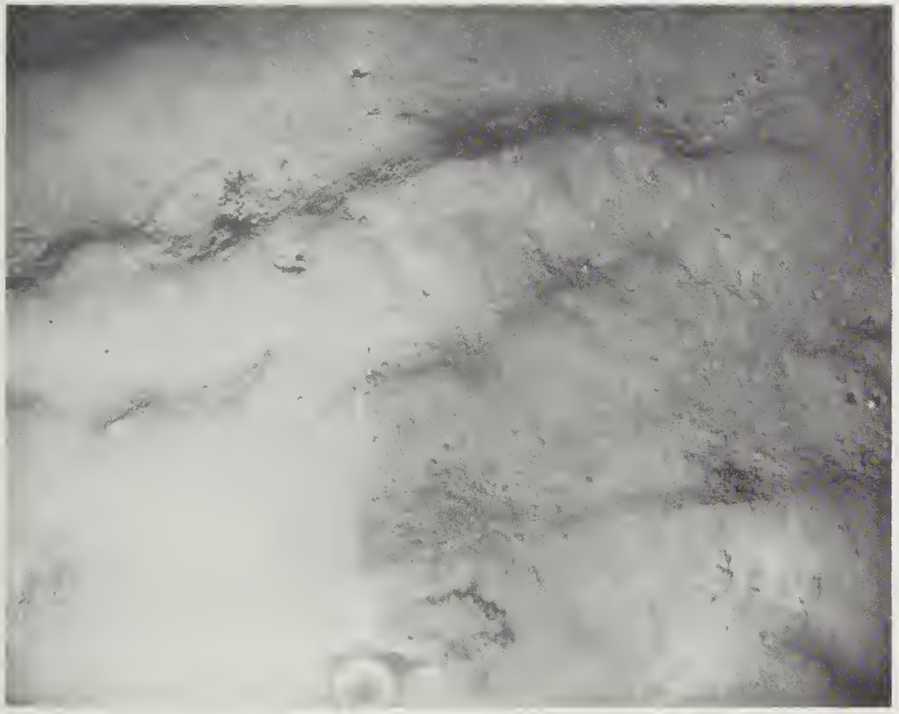


K52 - 9

K52 - 15

K53 - 3

K53 - 11



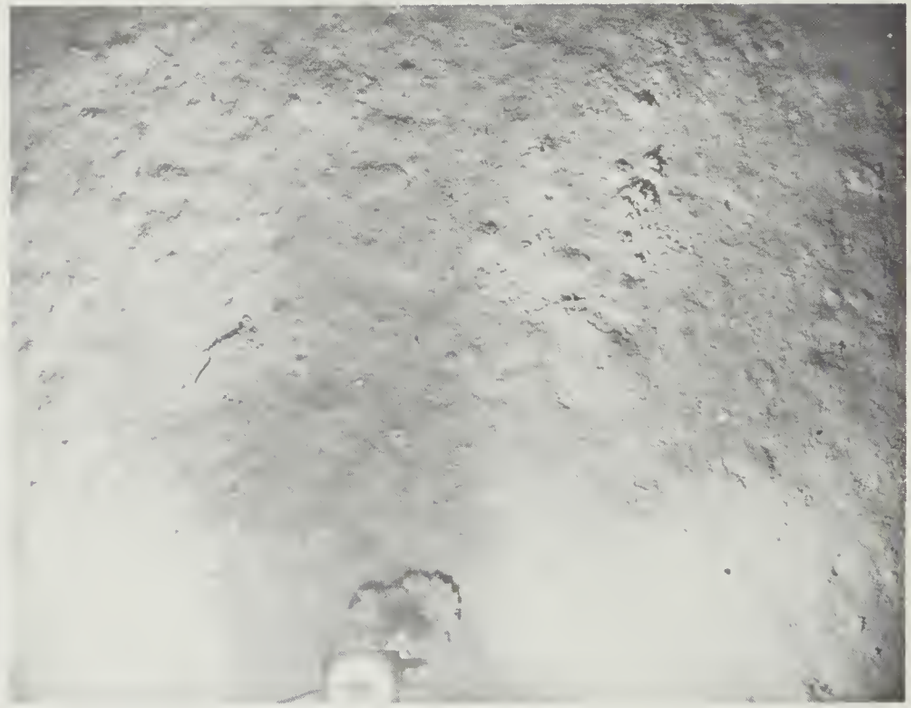
K54-2

K54 - 6

K54 - 8

K55 - 6

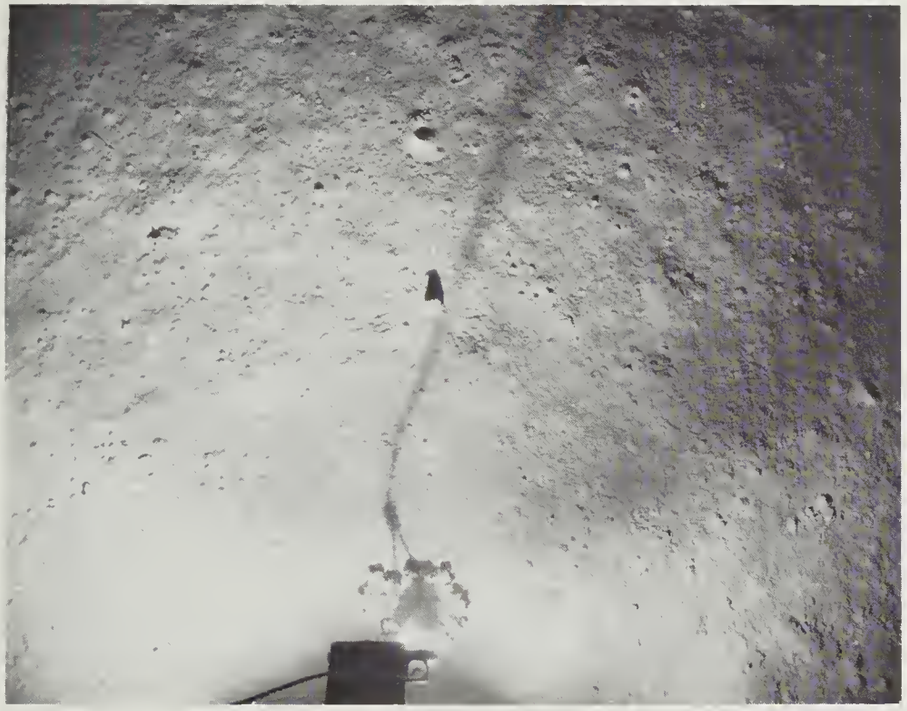
K56 - 6



K56 - 10

K56 - 14

K57 - 3



K57-11

K57-12

K58-13

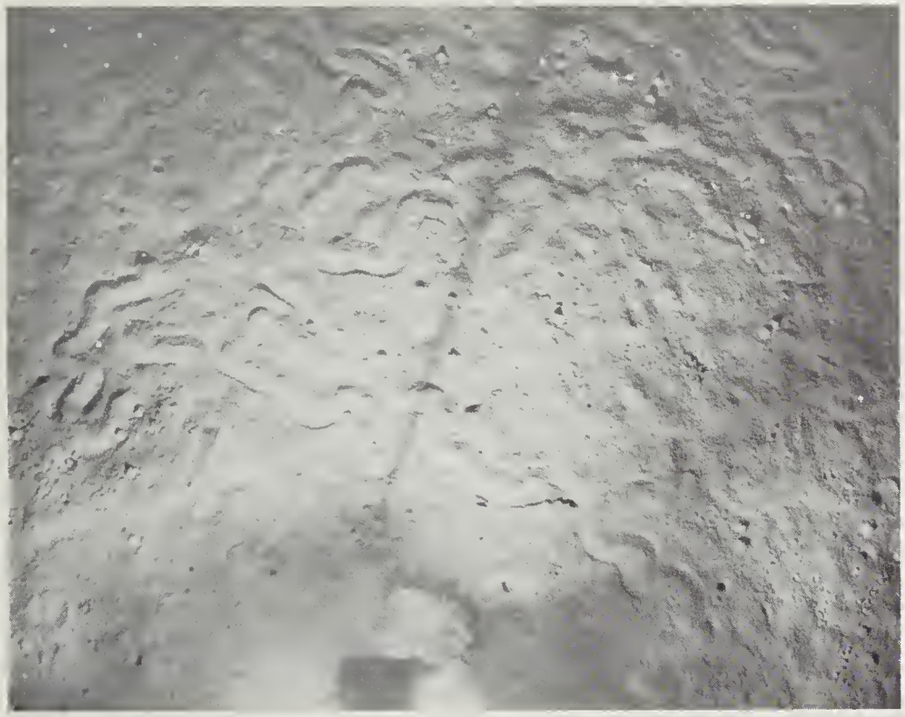
K58-15

K59-2

K59-8

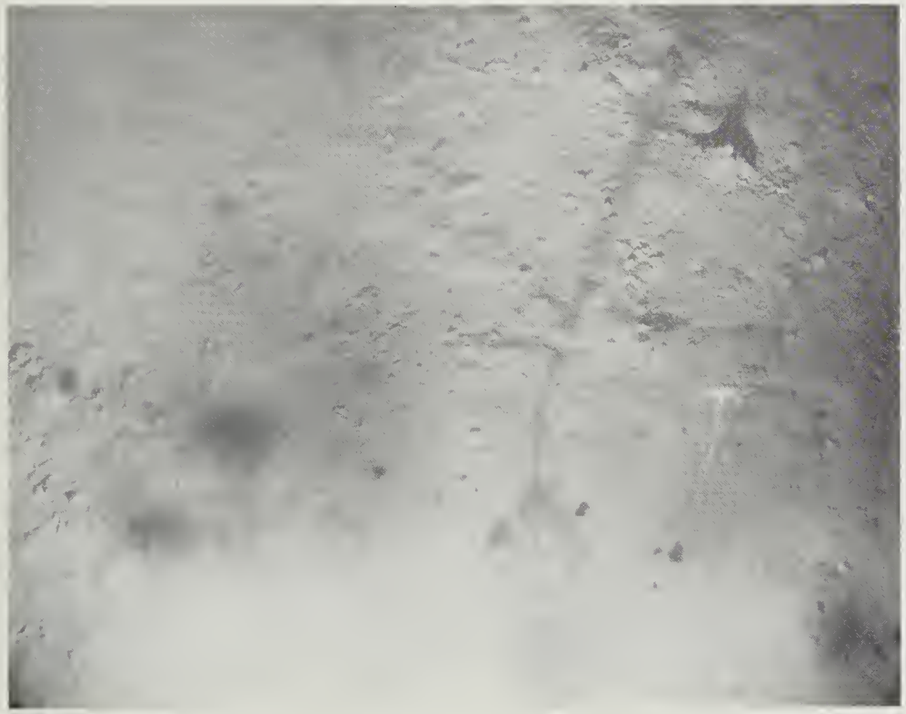
K60-8

K60-9



K61 - 5

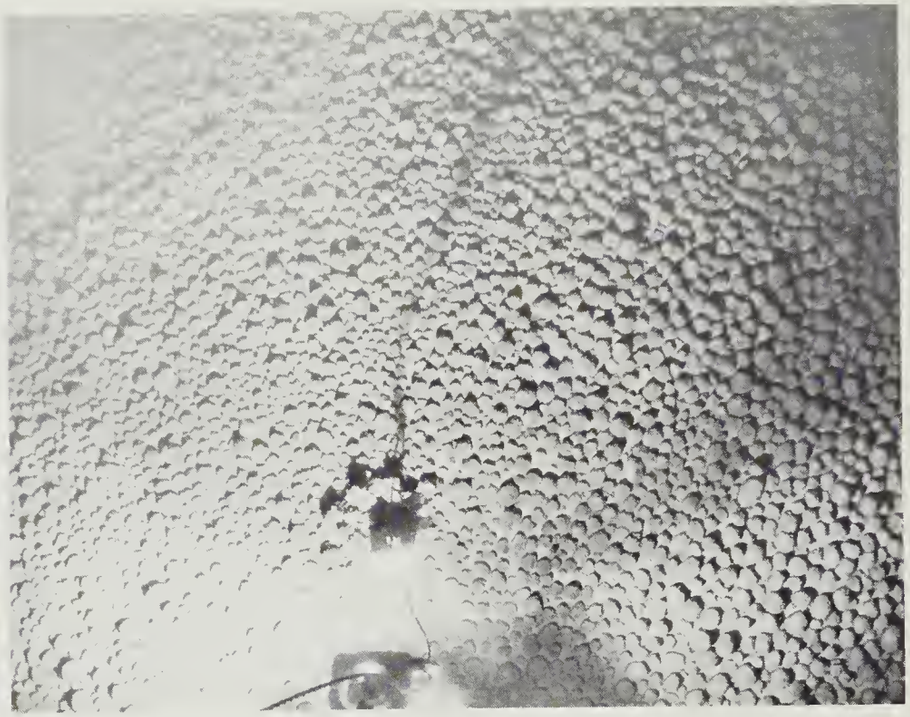
K61 - 10



K62 - 6

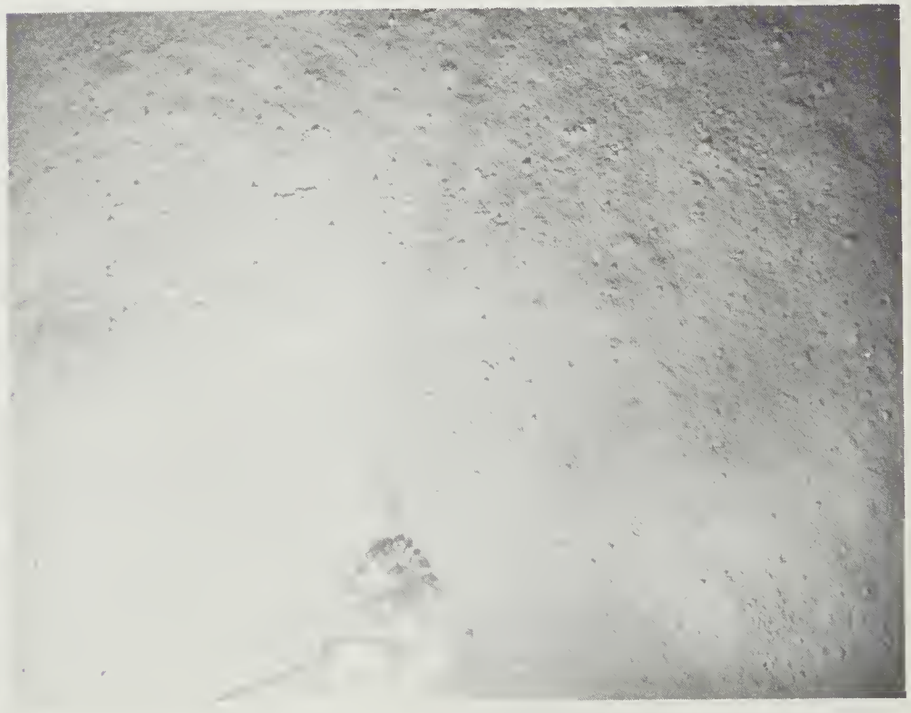
K62 - 16

K63 - 4



K63 - 5

K63 - 9



K64 - 2

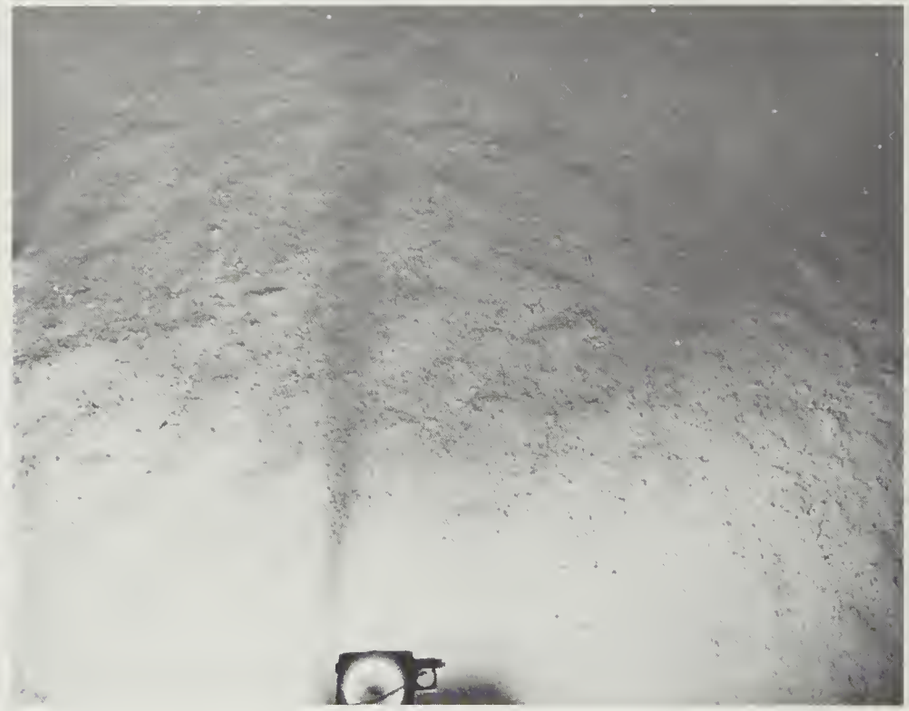
K65-6

K65-7

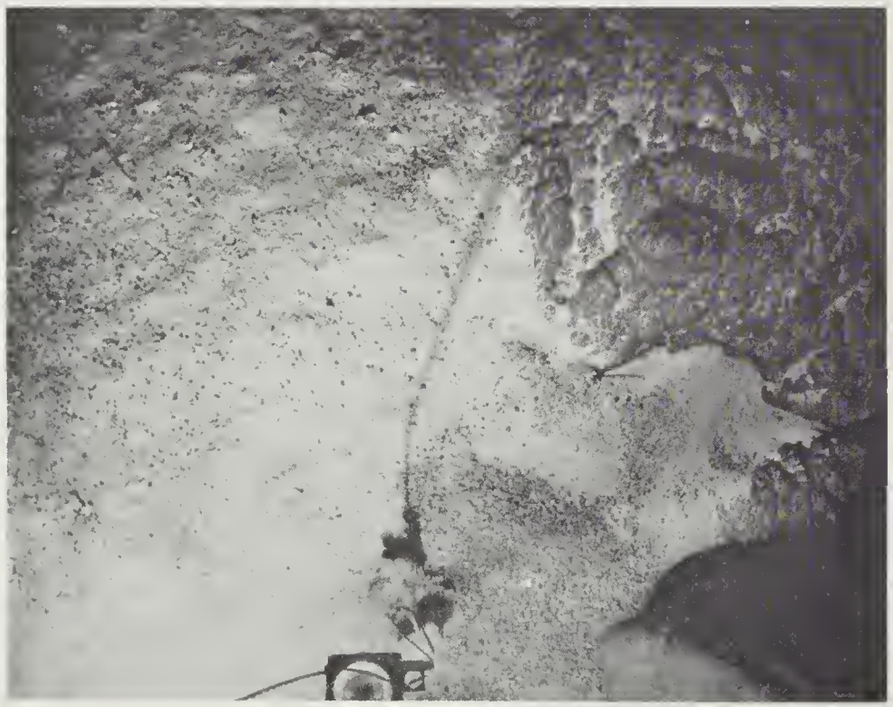
K66-1

K66-10

K66-11



K66-14



K66-15

K66-16

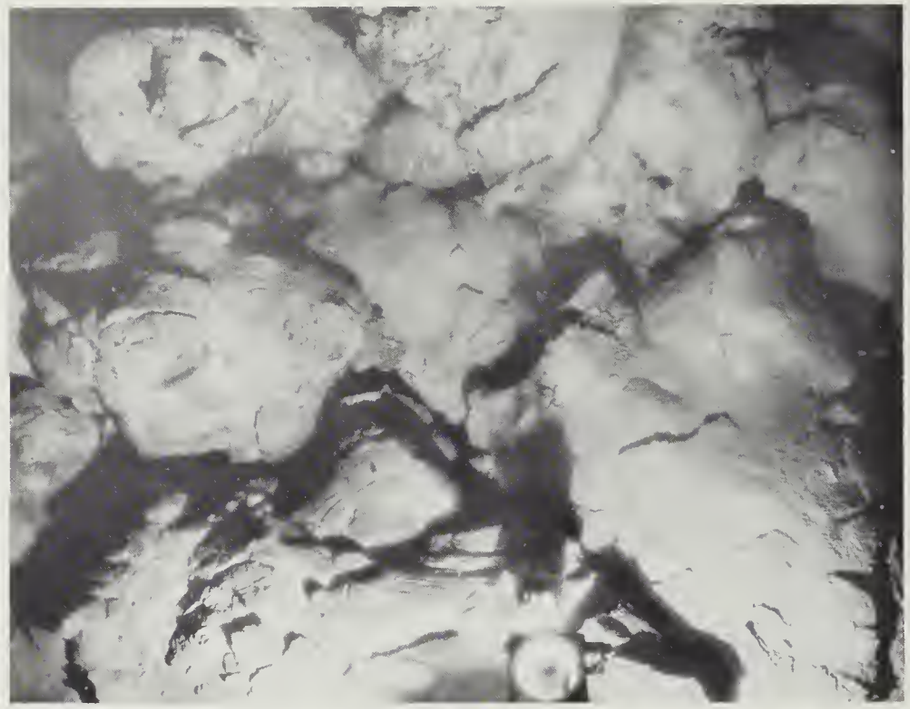
K66-19

K66-20

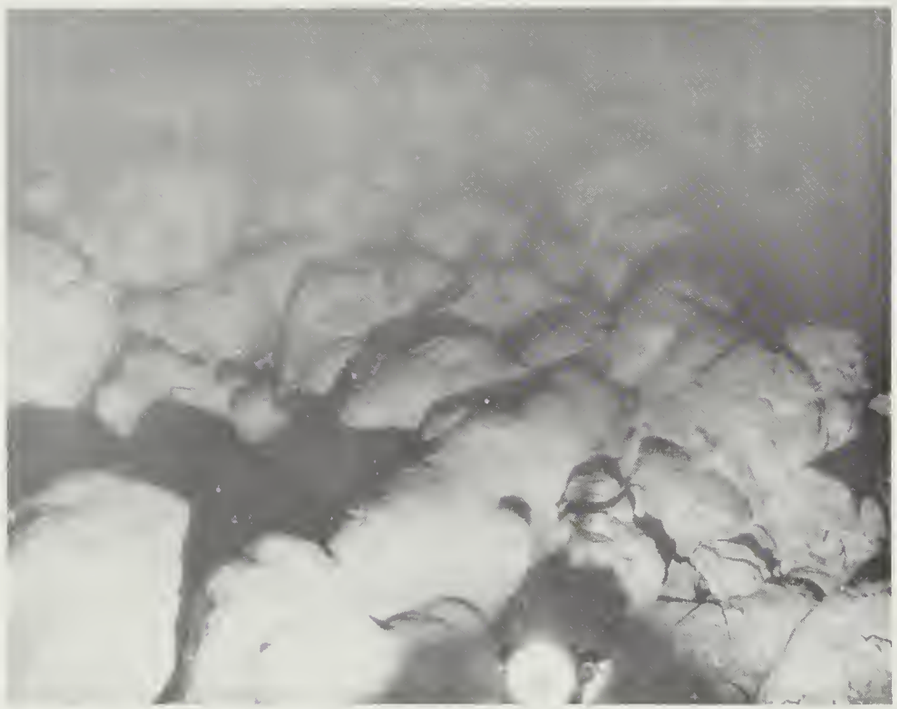
K67-13

K67-14

K68-2



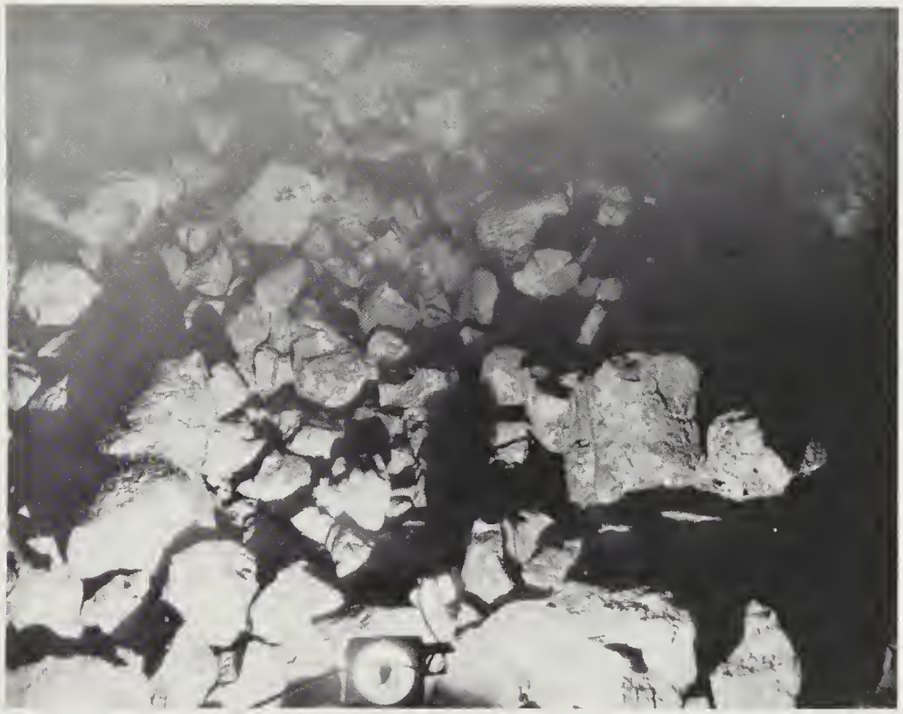
K68-3



K68-5

K68-6

K68-7

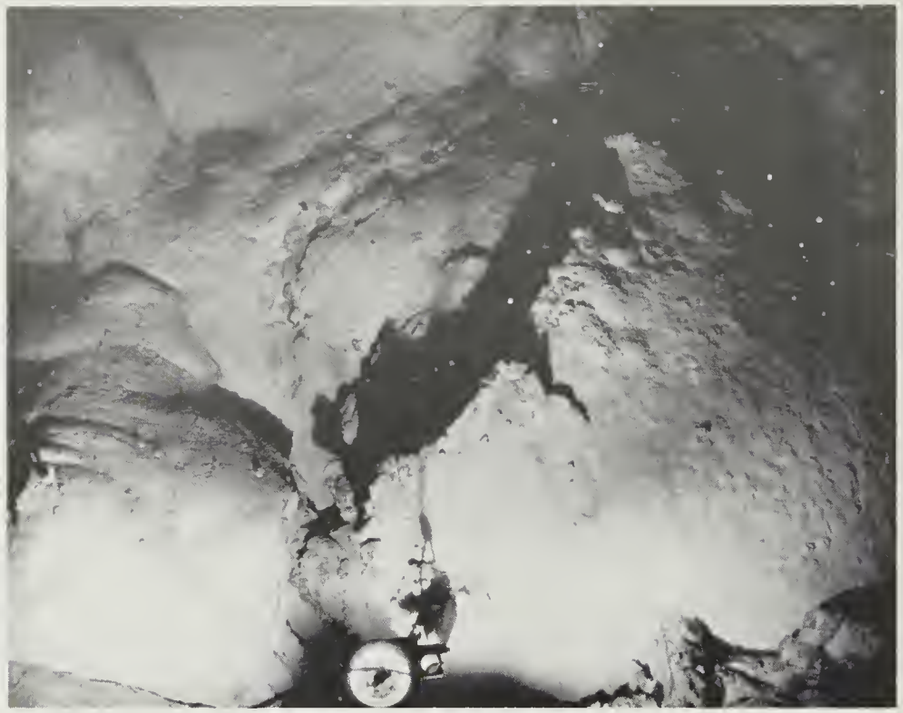


K68-10

K69-7

K70-1

K70-4



K70-7

K70-8

K70-10

K70-11

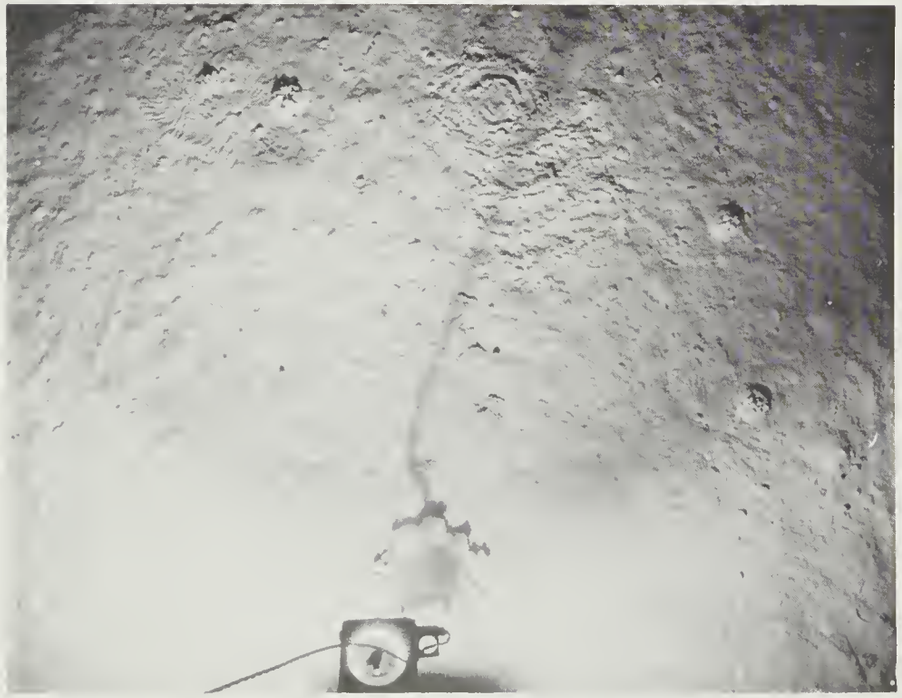
K71-5

K71-13

K72-2

K72-12

K73-2



K73-8

K74-3

K74-12

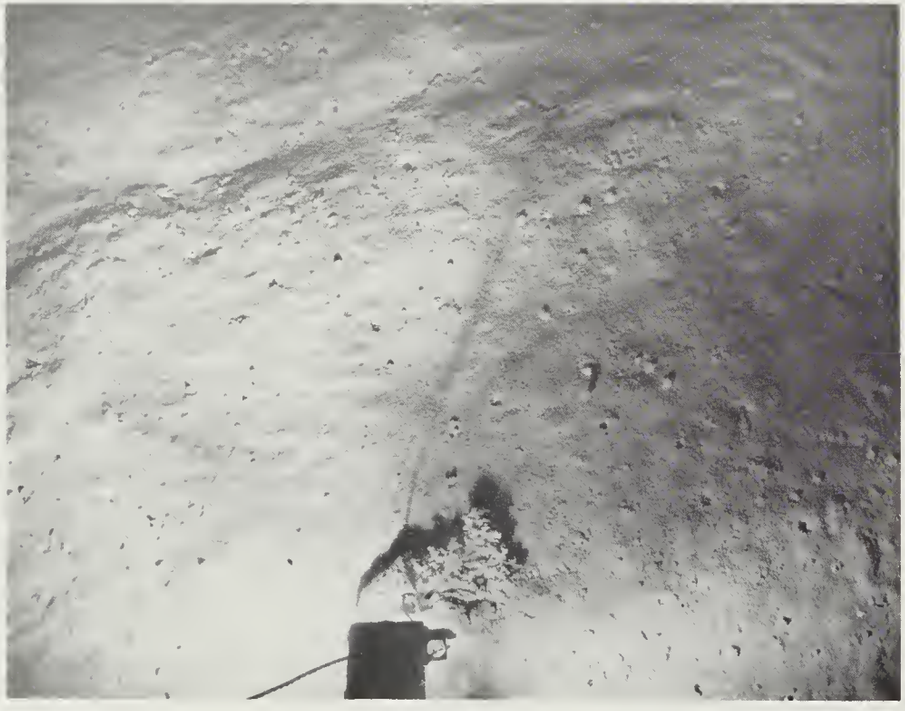
K74-13

K74-14

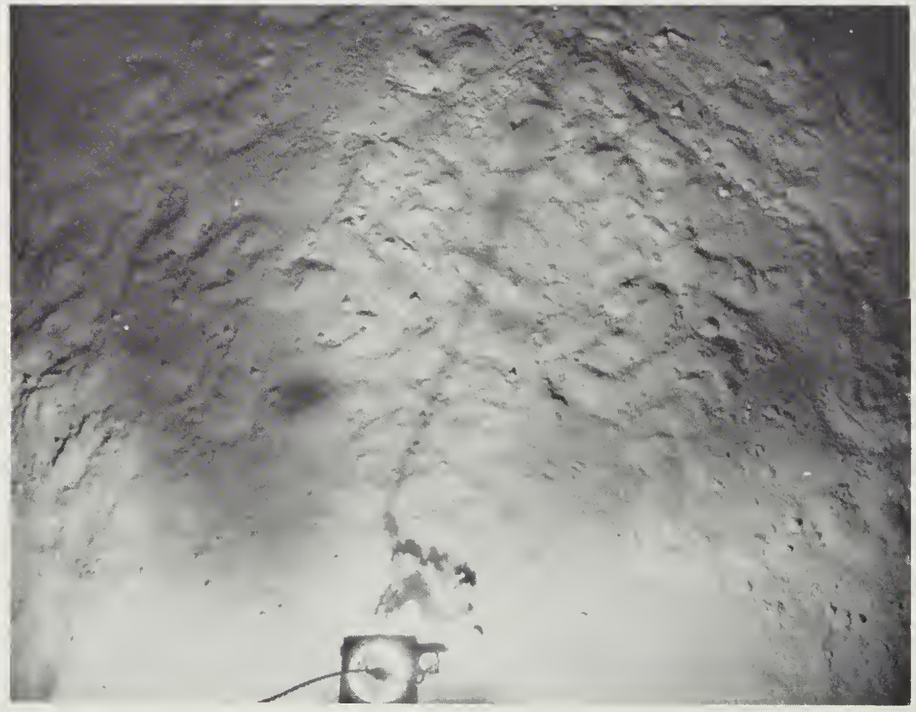
K75-5

K75-11

K76-4



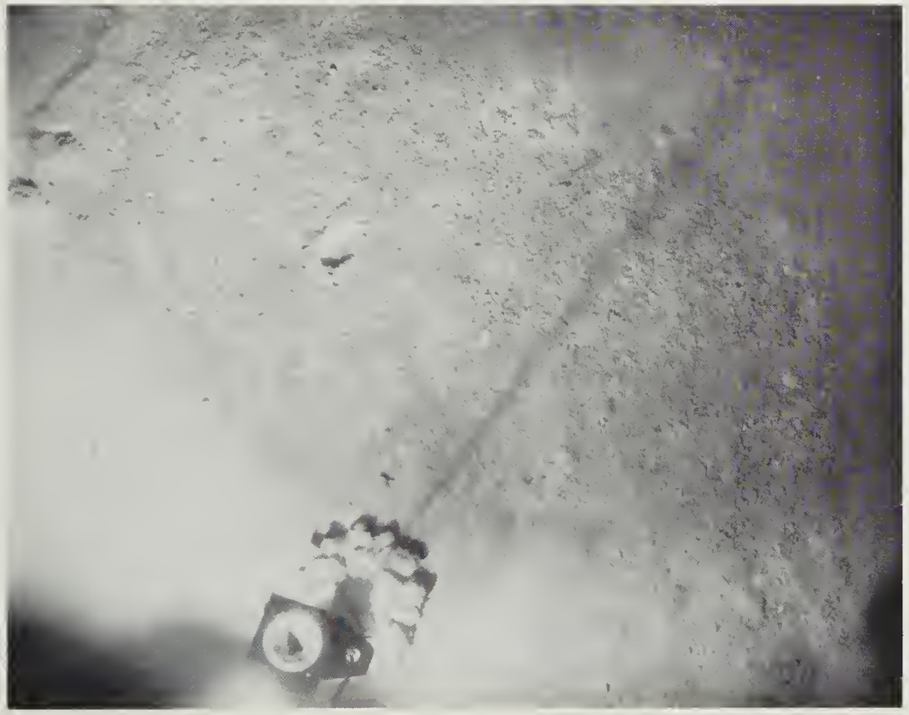
K76-10



K77-2

K77-7

K77-10

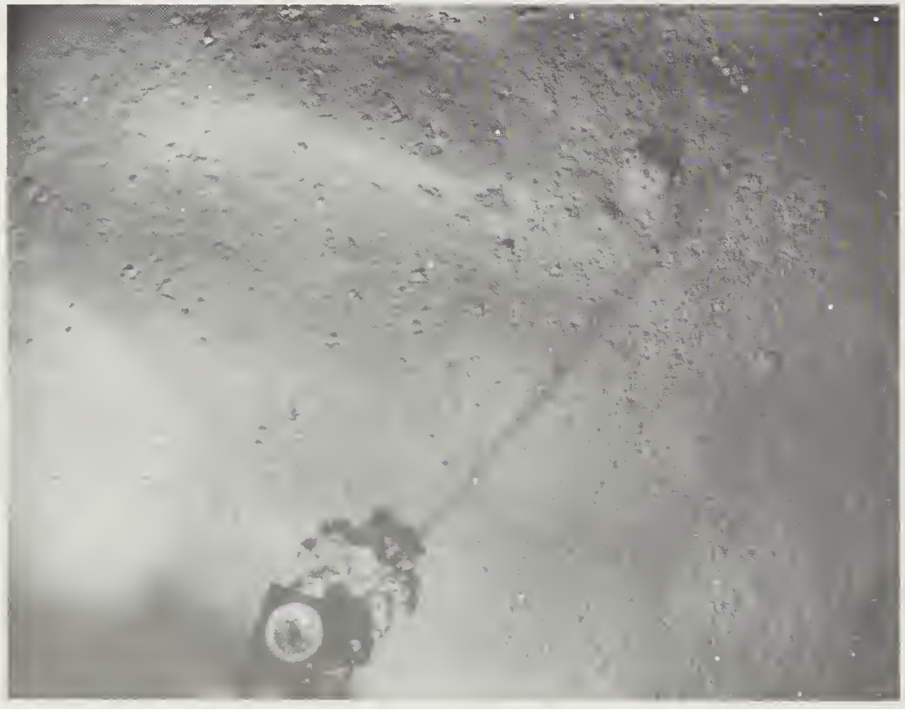


K78-6

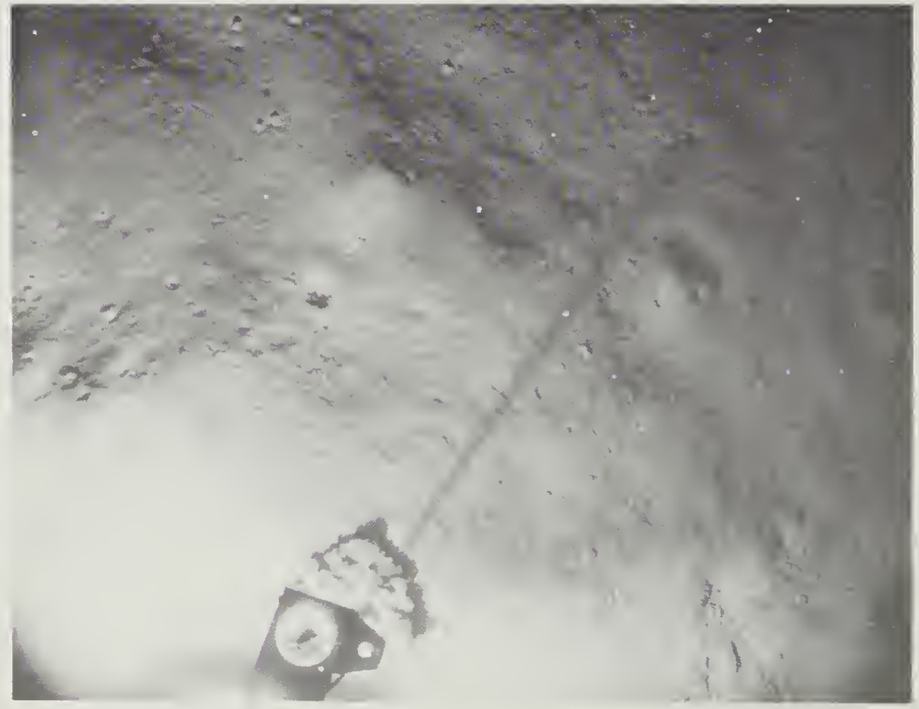
K78-9

K79-3

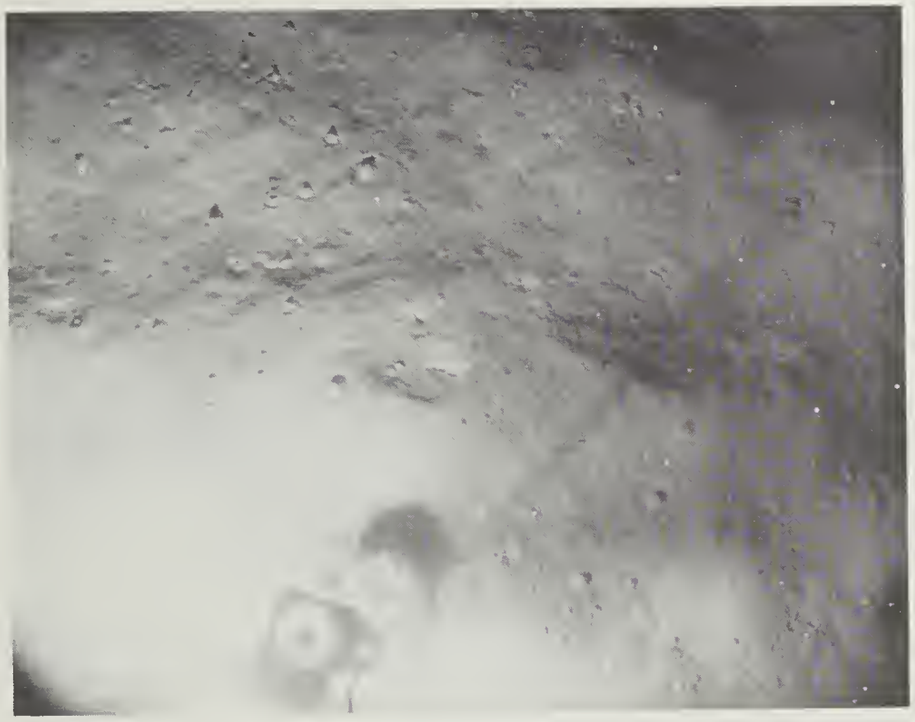
K79-5



K79-11

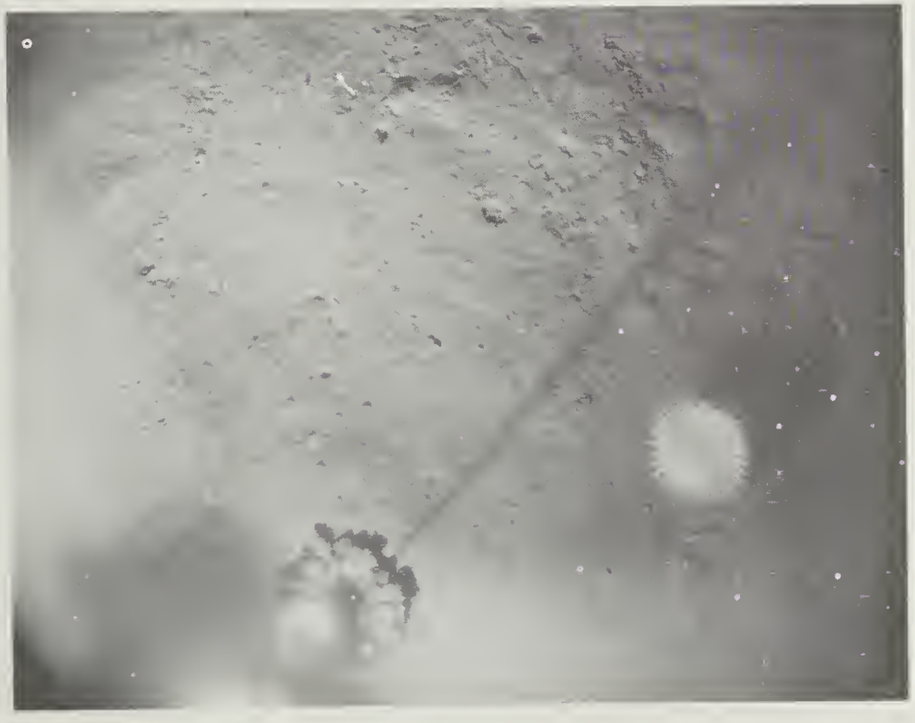


K80-2

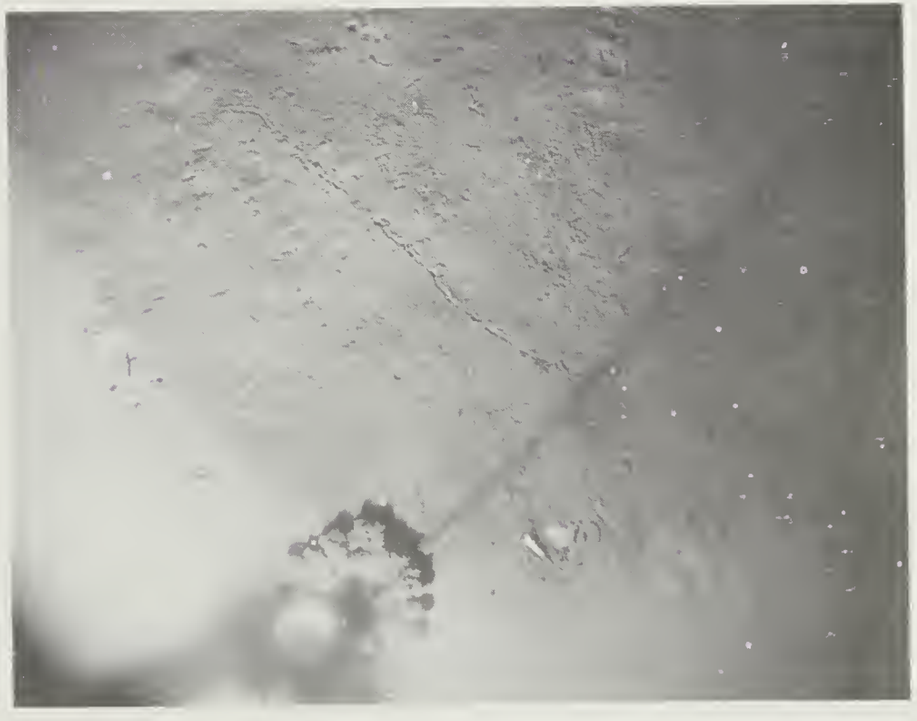


K80-4

K81-6

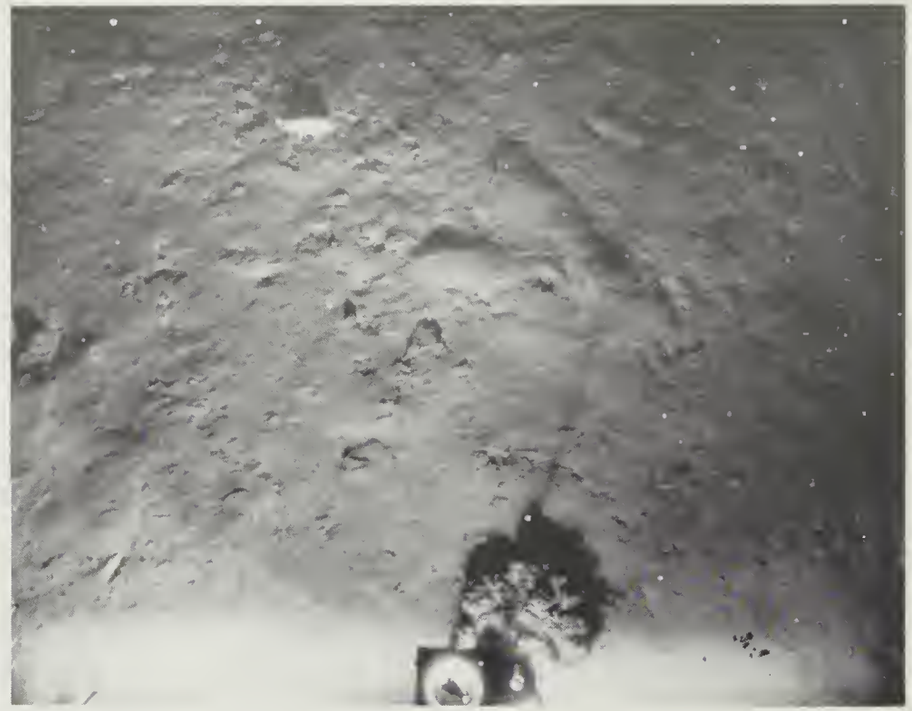


K81-10



K81-12

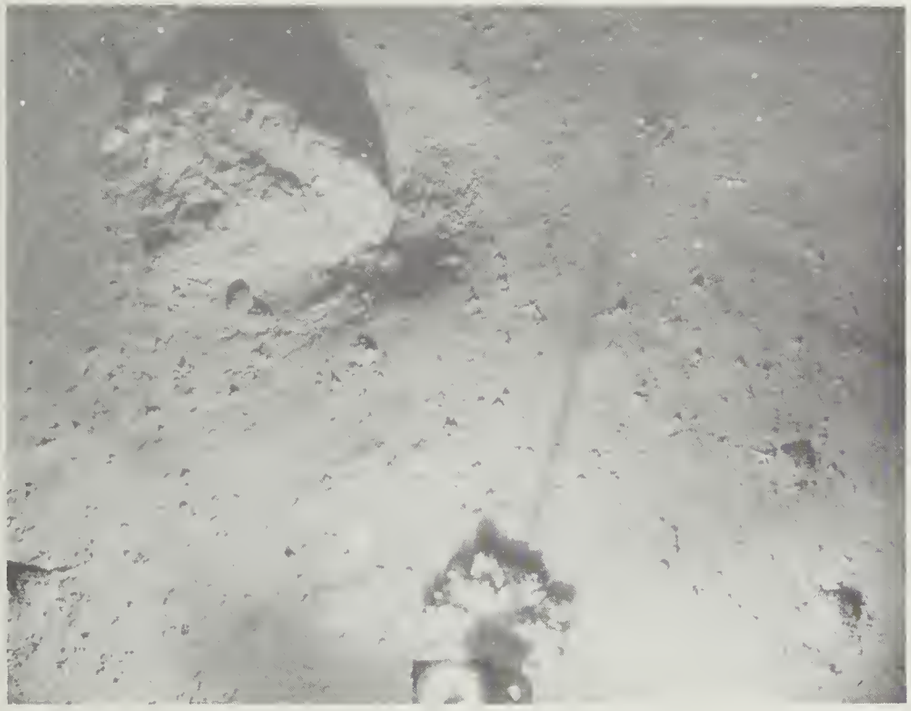
K82-3



K82-6

K83-3

K83-7



K83-12

K83-15

K84-6

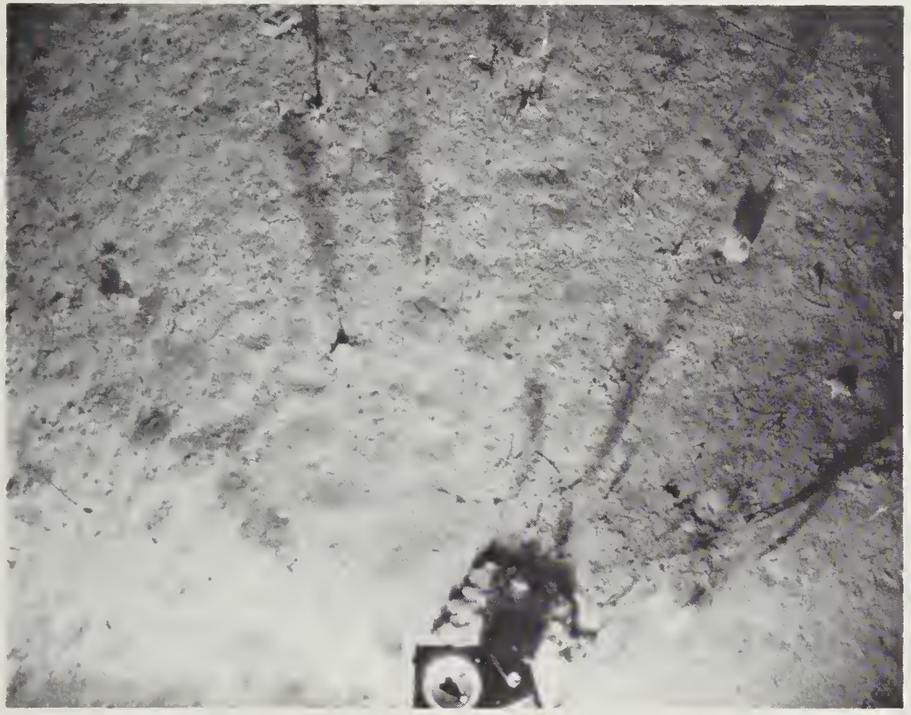
K84-7

K84-10

K86-5

K86-8

K87-2



K87-3

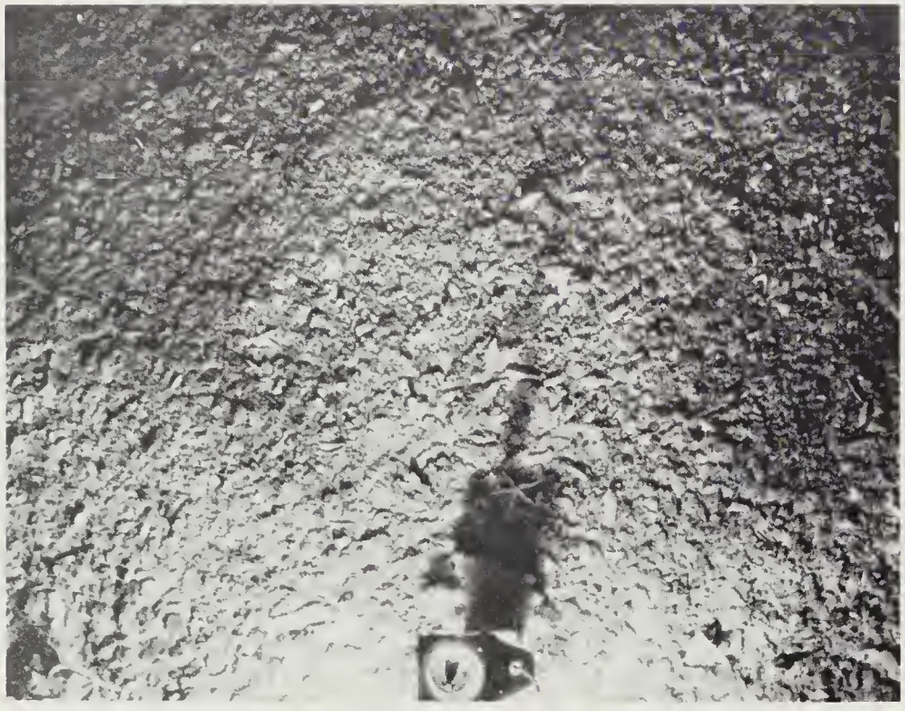
K87-4

K87-5

K87-11

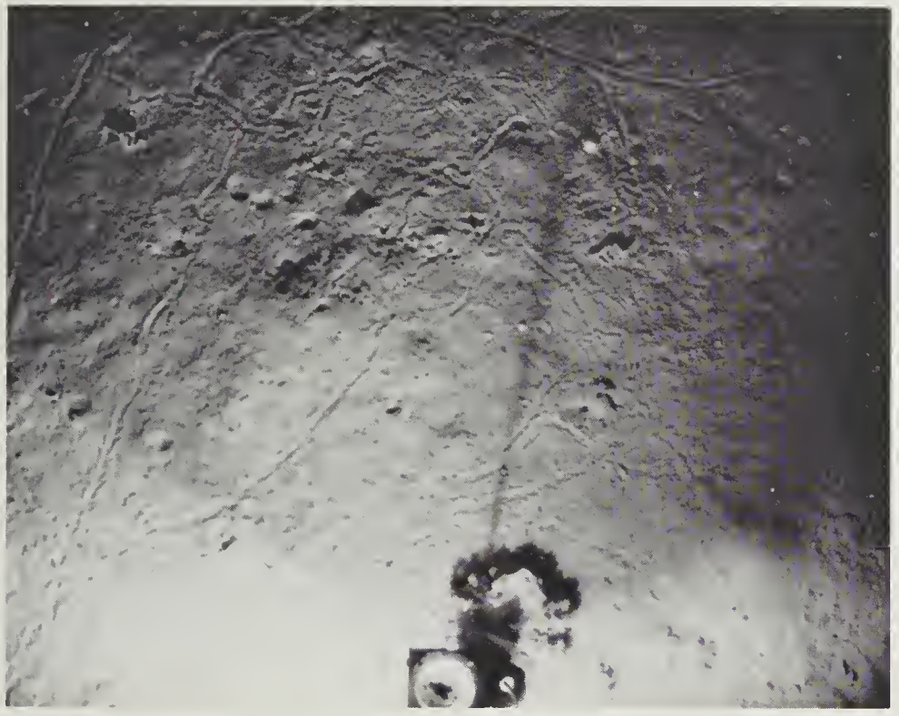
K87-13

K88-2



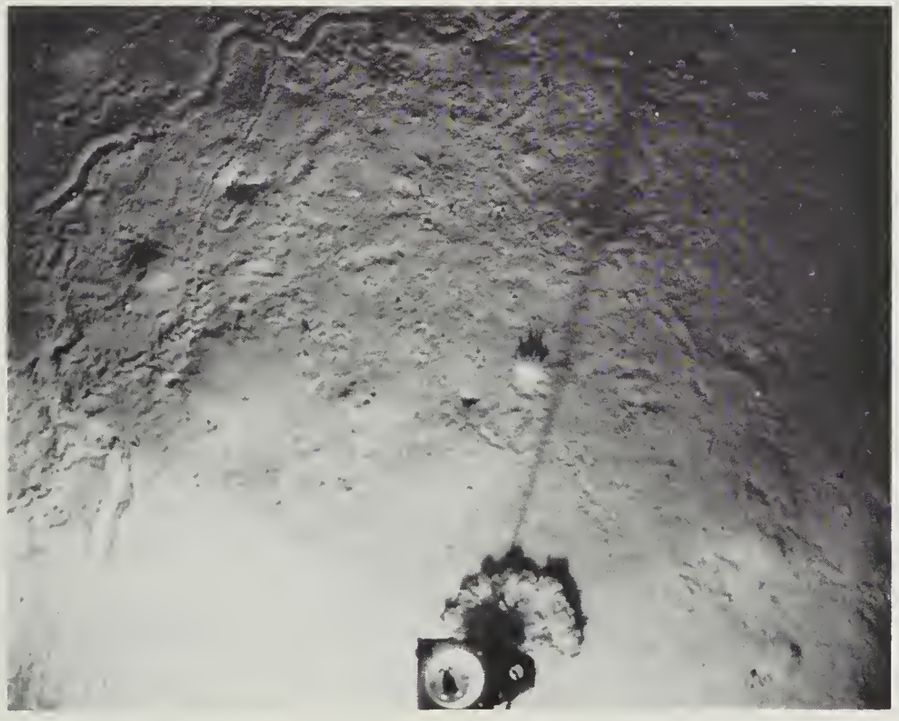
K88-3

K88-7



K89-4

K89-11



K89-12

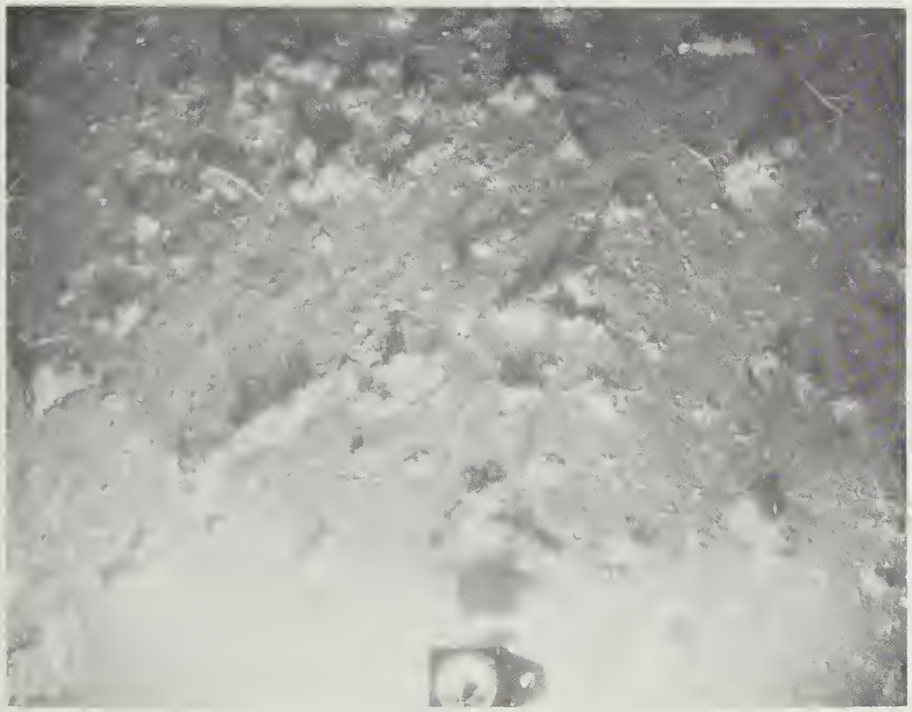
K90-6

K90-12

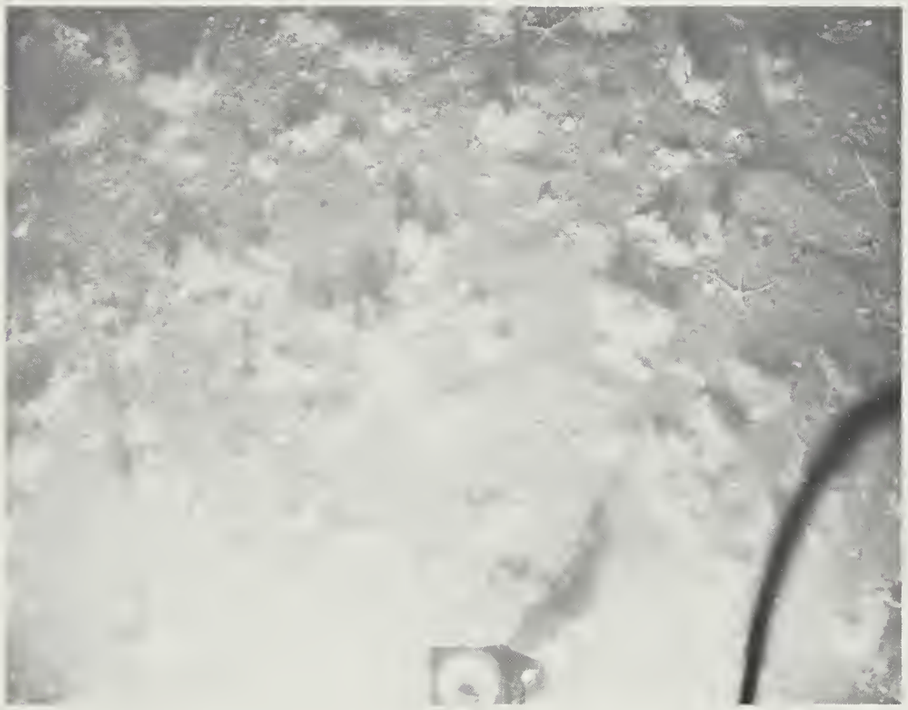
K91-5

K91-6

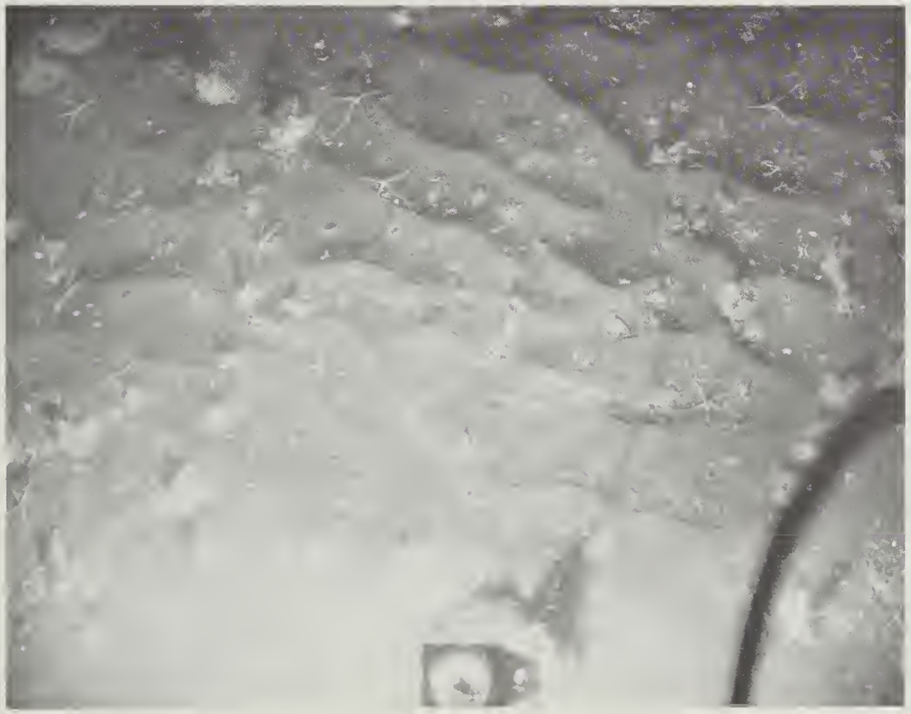
K92-3



K92-6



K92-9



K92-11

K92-13

K93-2

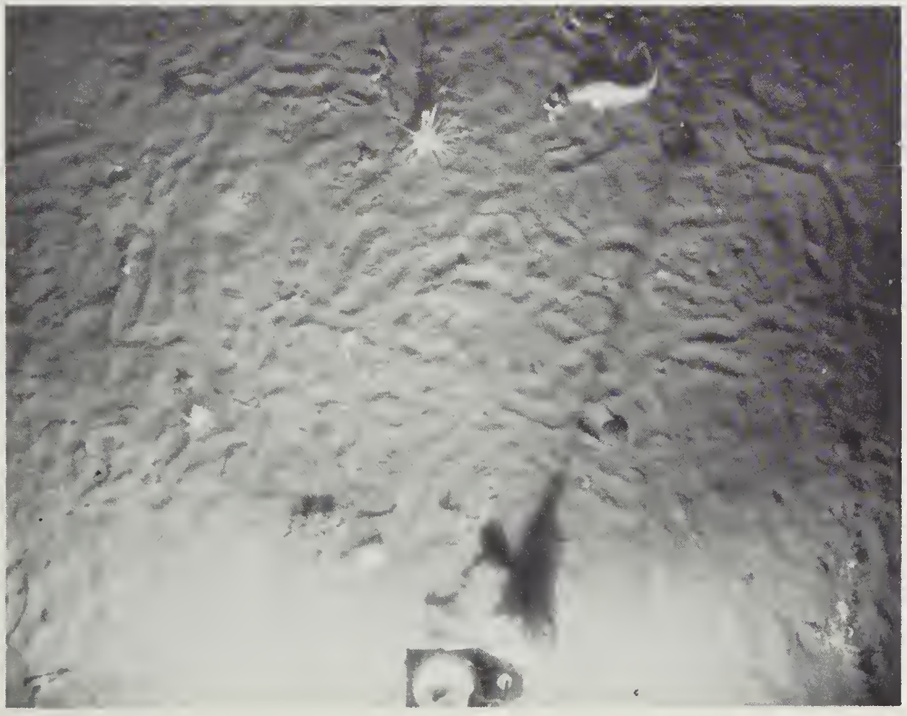
K93-3

K93-4

K93-5

K93-7

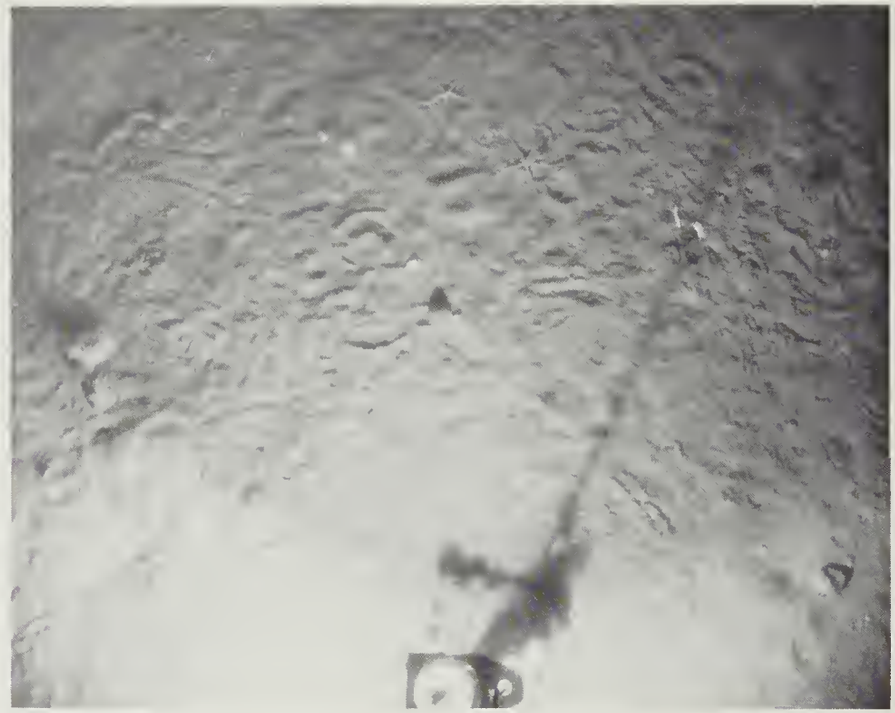
K93-10



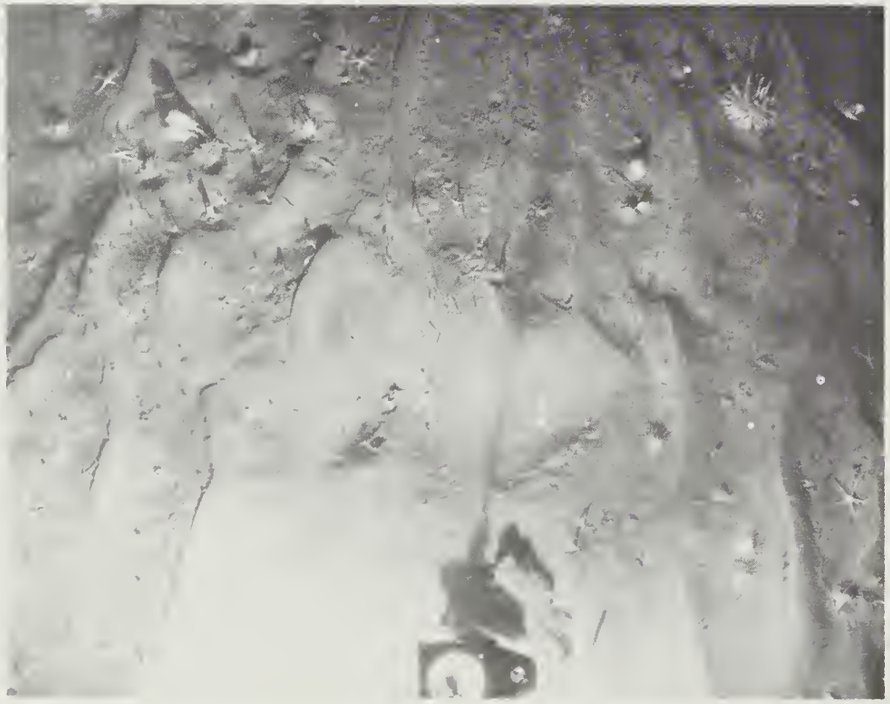
K94-1

K94-8

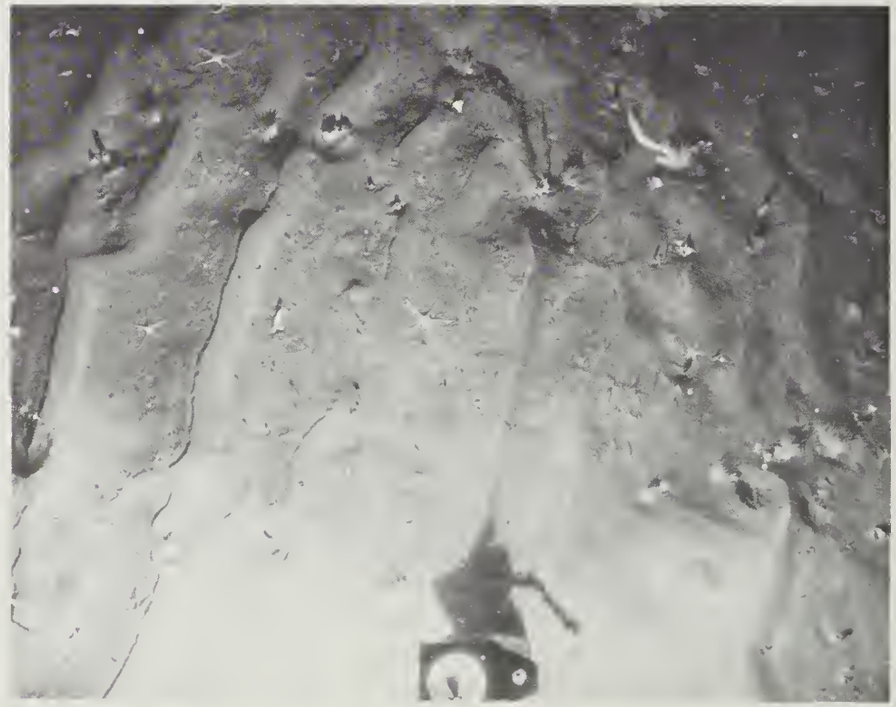
K94-9



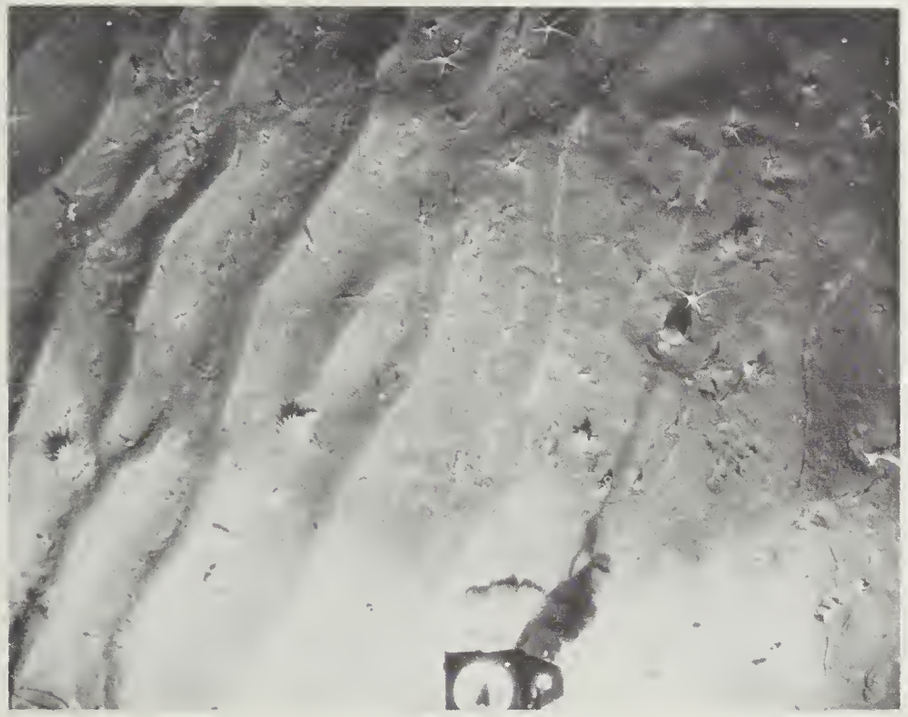
K94-11



K95-2



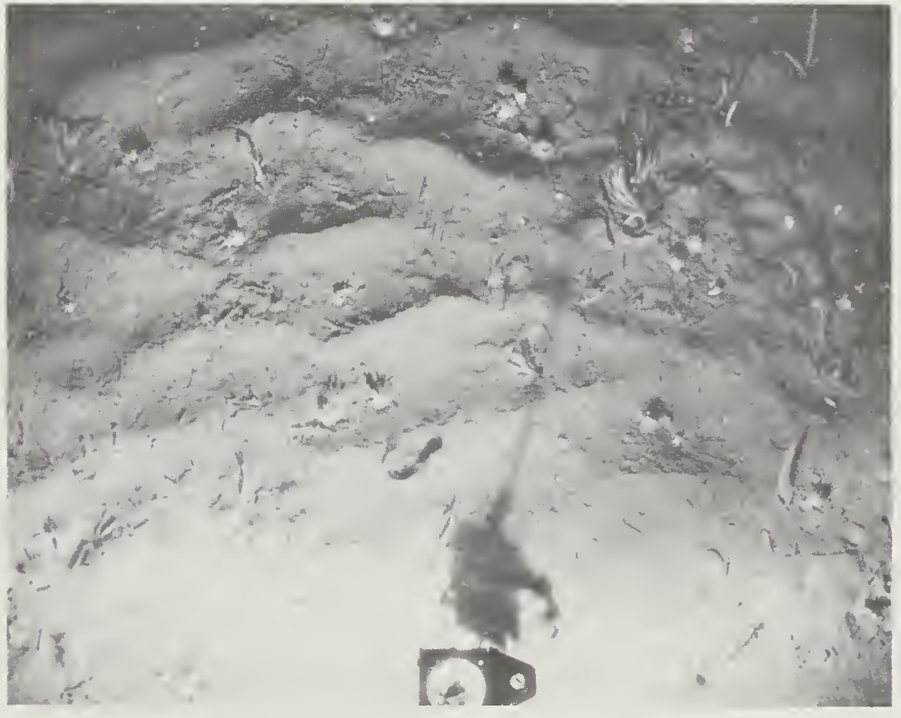
K95-3



K95-11

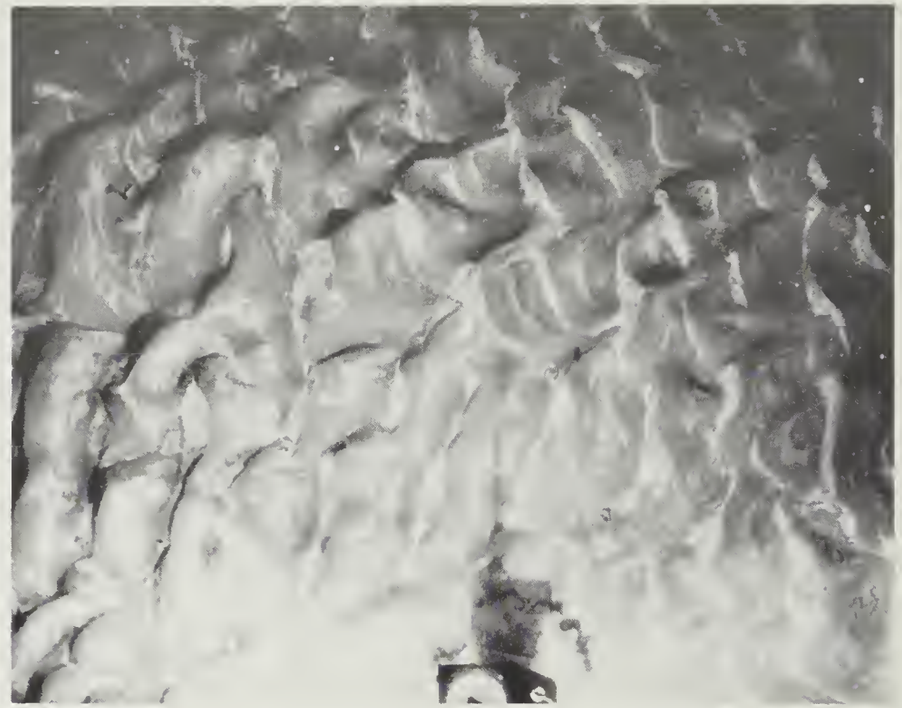
K95-15

K96-1

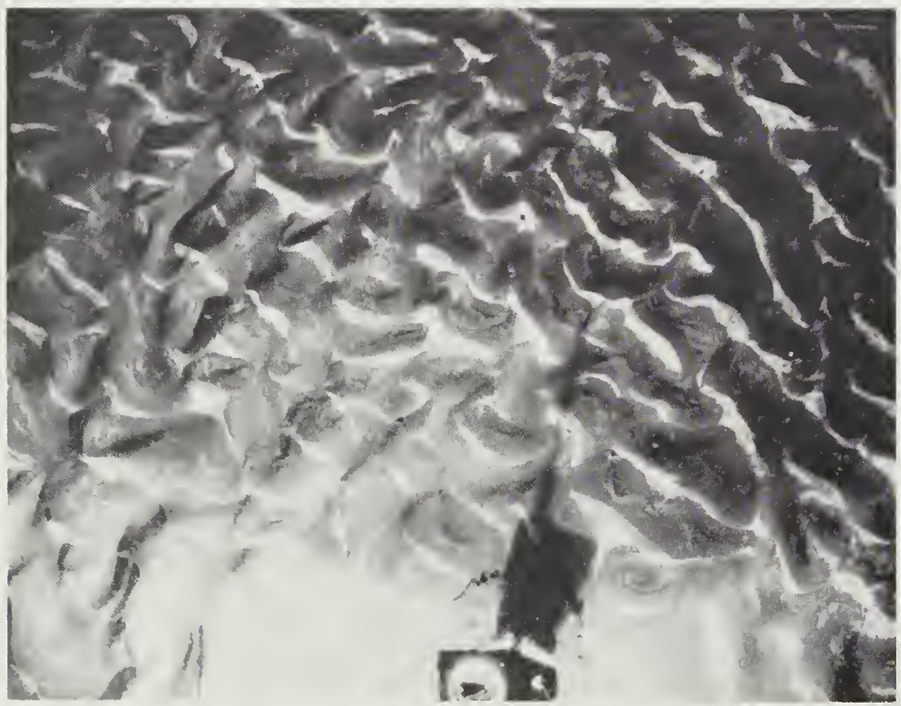


K96-4

K96-13



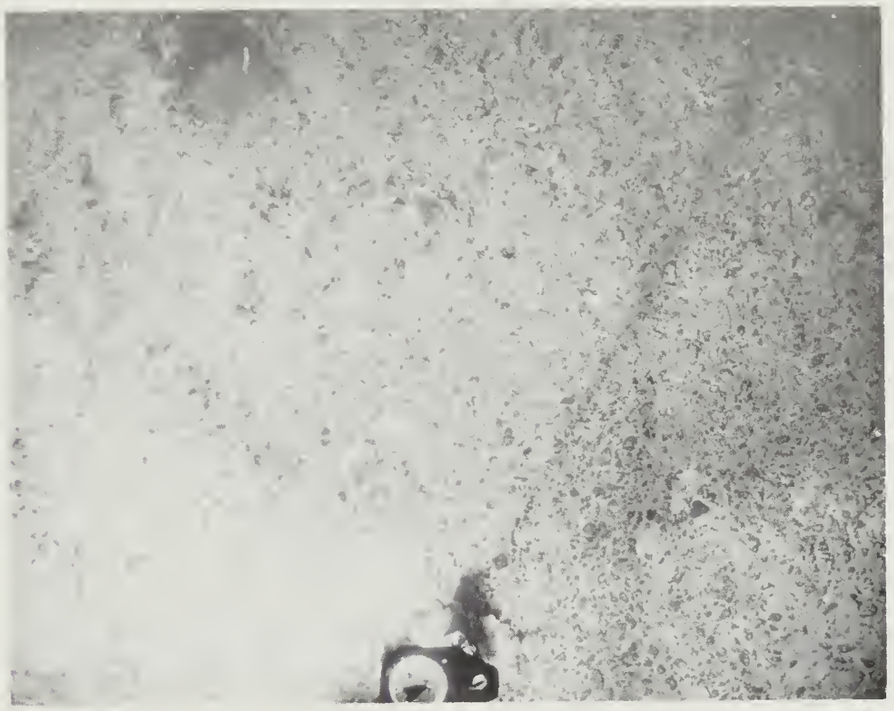
K97-2



K97-7

K98-3

K98-9



K99-2

K99-11

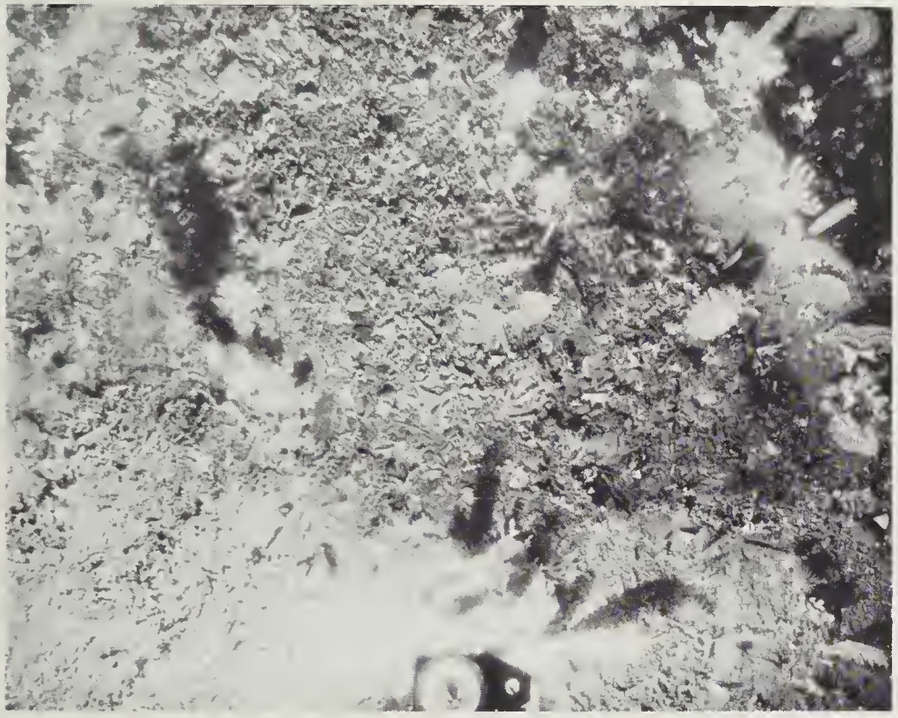
K99-13

K100-3

K100-5

K100-8

K100-9



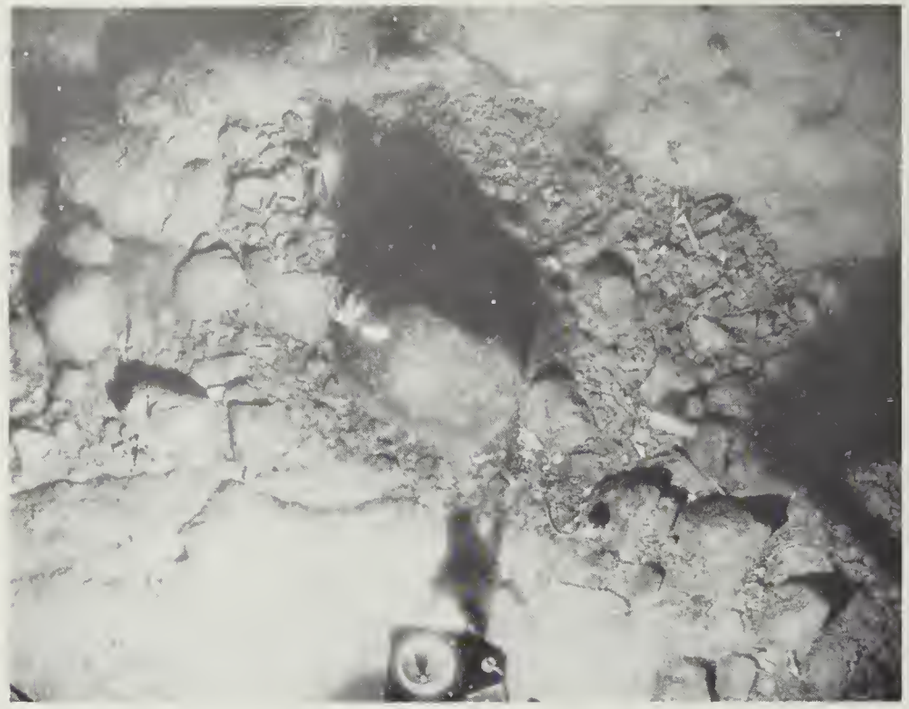
K100-13

K101-3

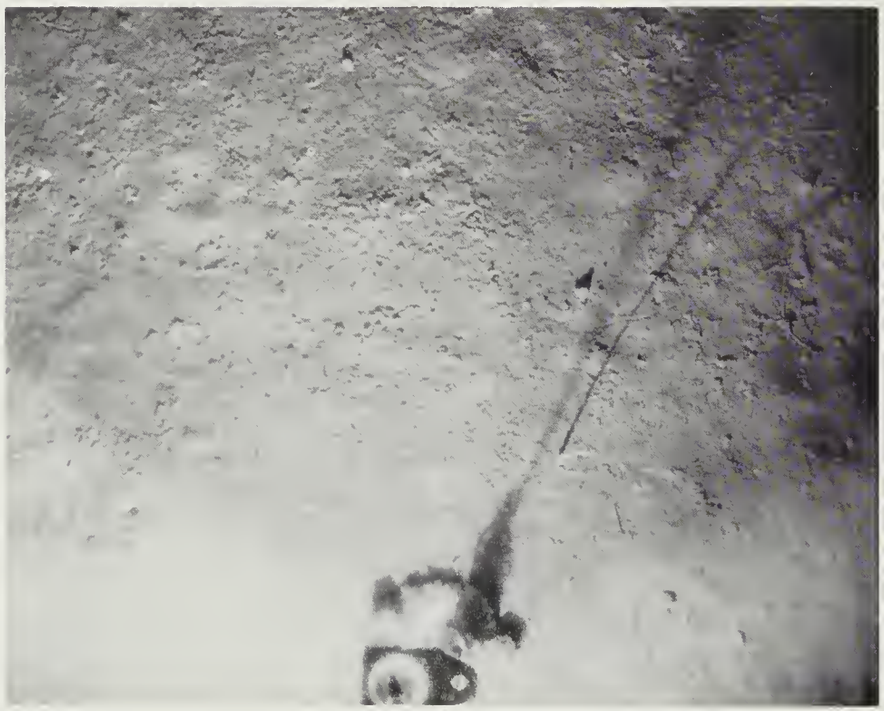
K101-6

K101-10

K101-13



K101-14

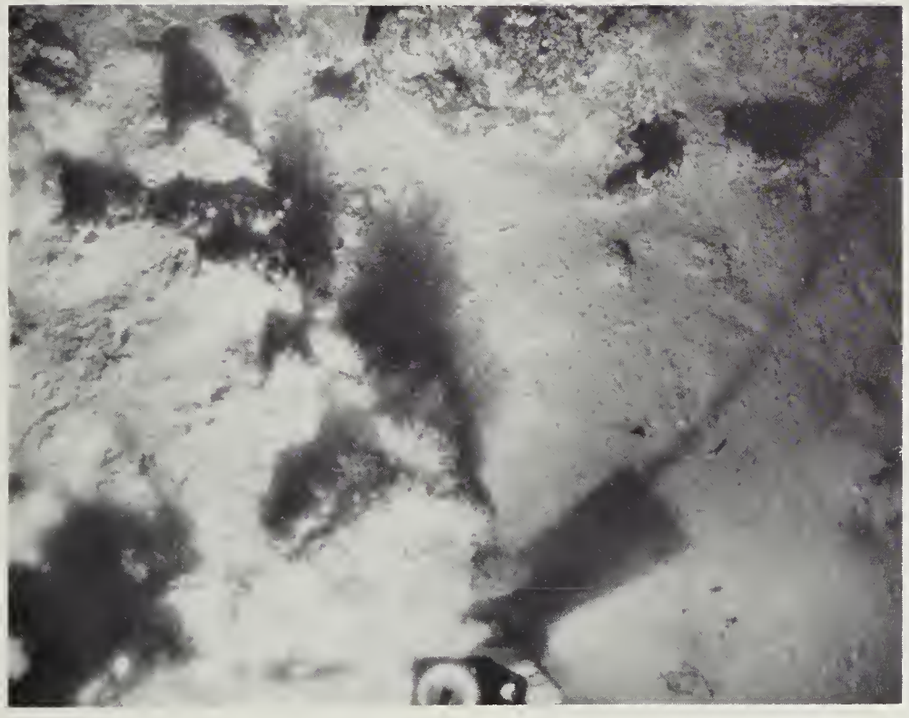


K102-6

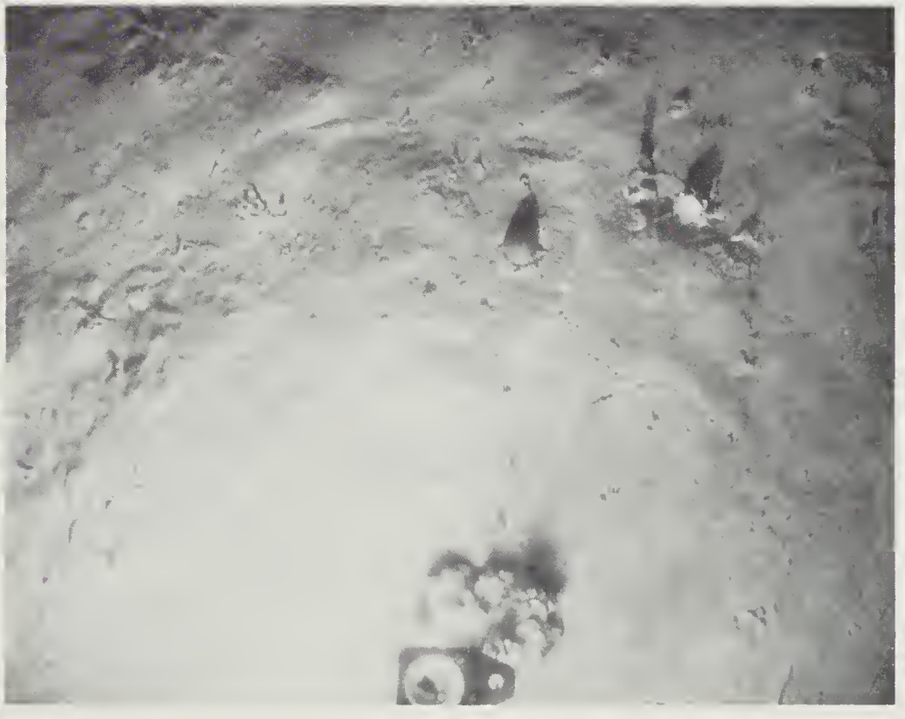
K102-8

K102-13

K103-2



K103-6



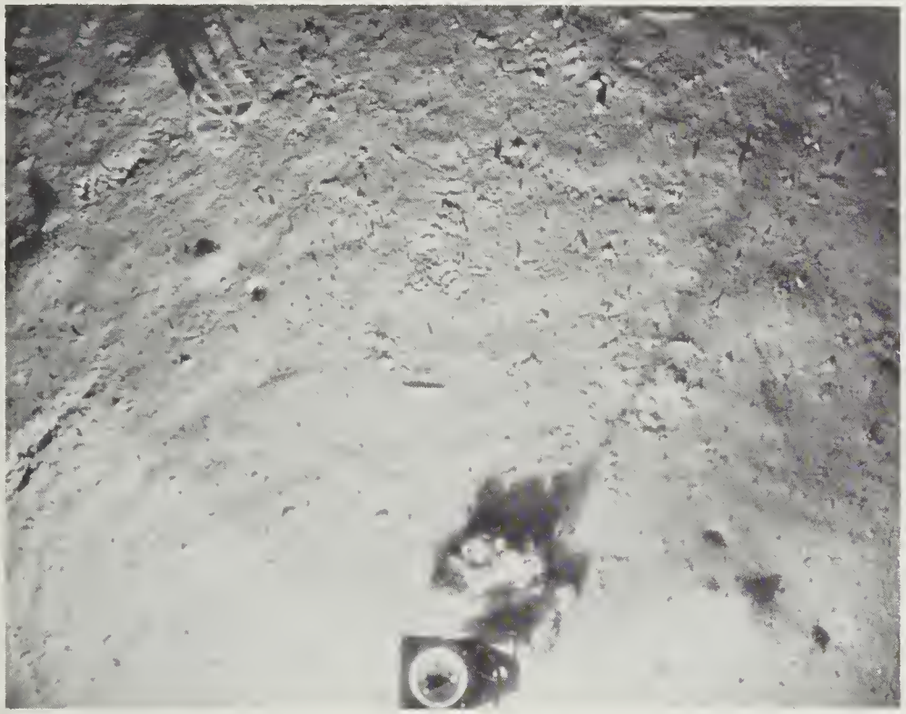
K104-3

K104-10

K104-12

K105-10

K105-11



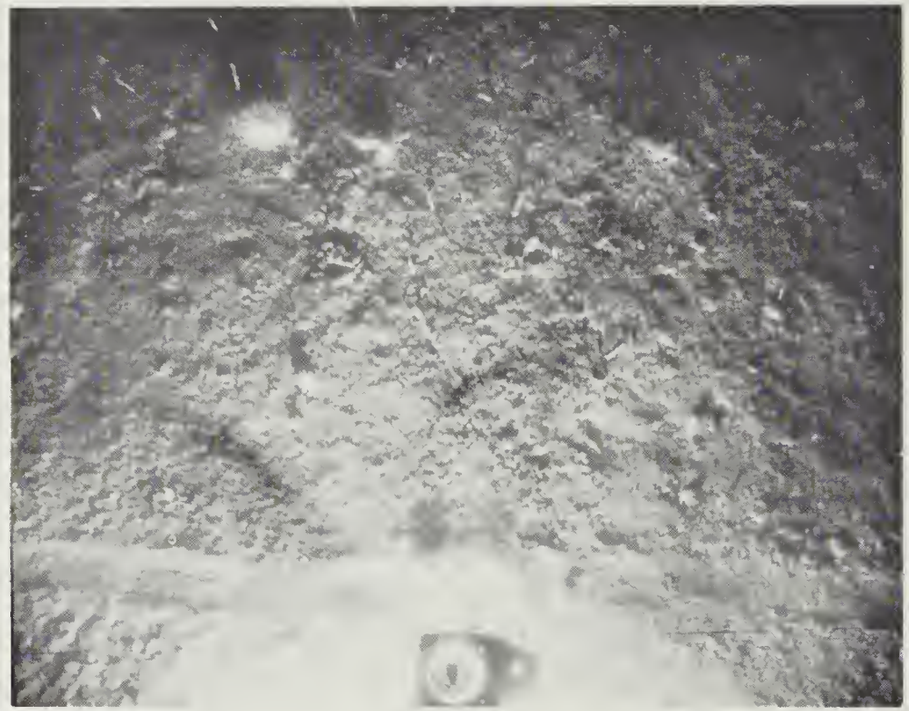
K106-2

K106-8

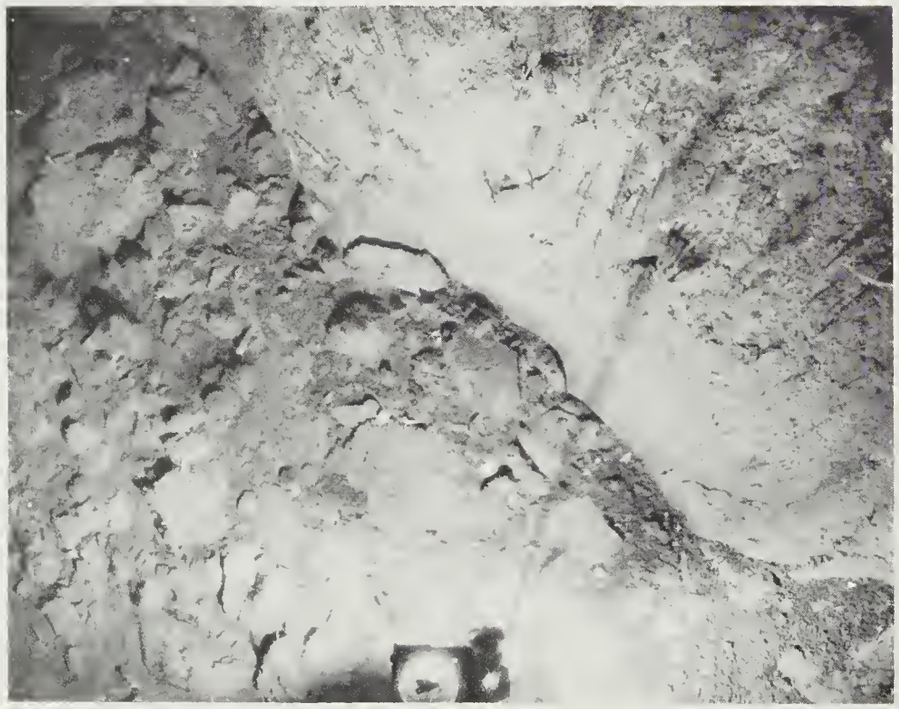
K107-10

K108-6

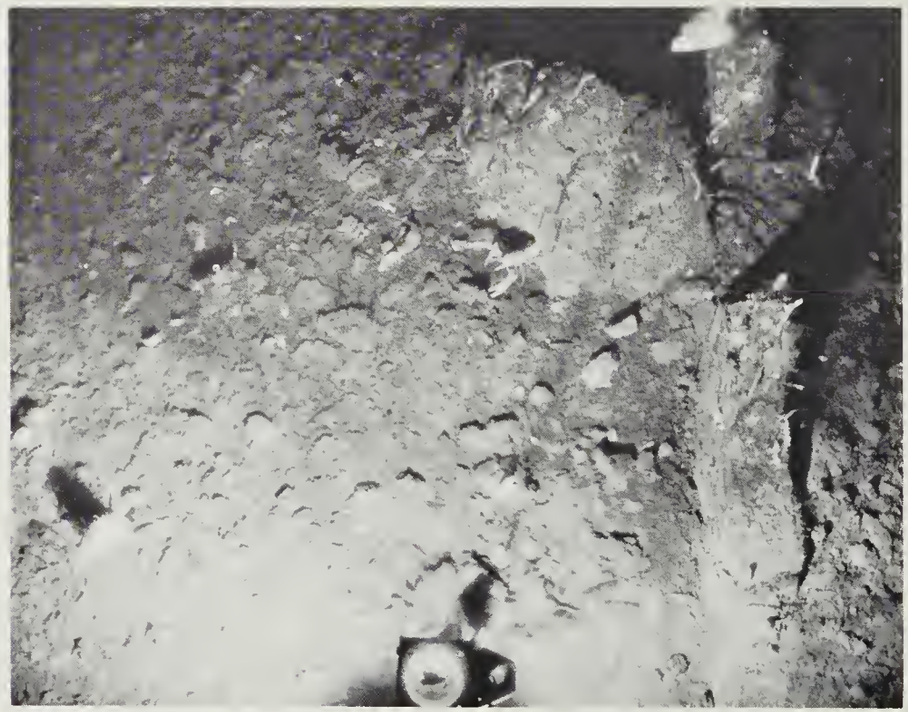
K108-7



K108-12



K109-1



K109-3

K110-4

K110-8

K111-8

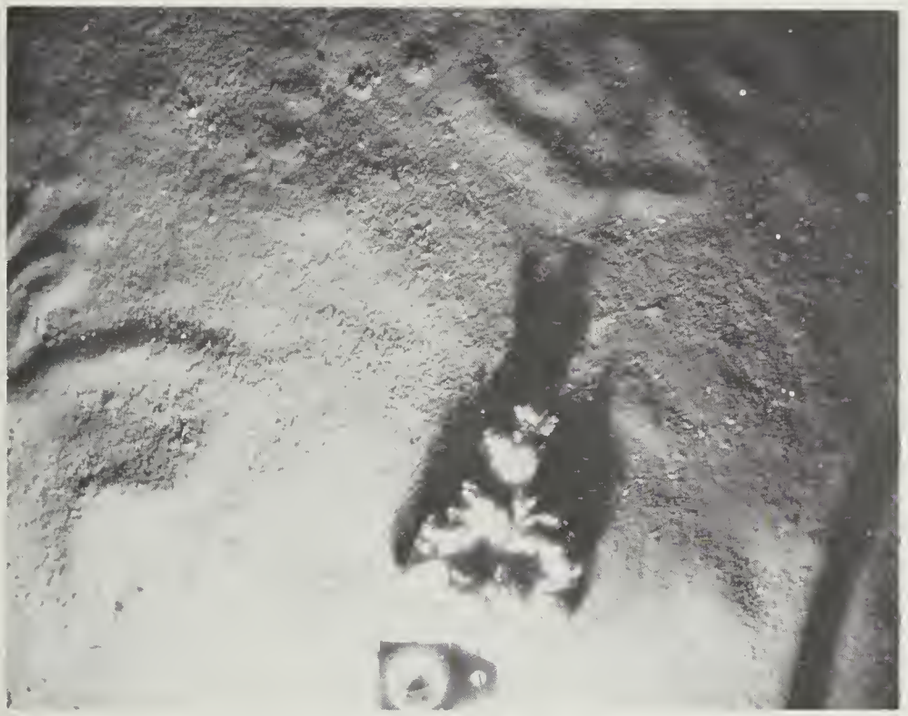
K112-2

K113-3

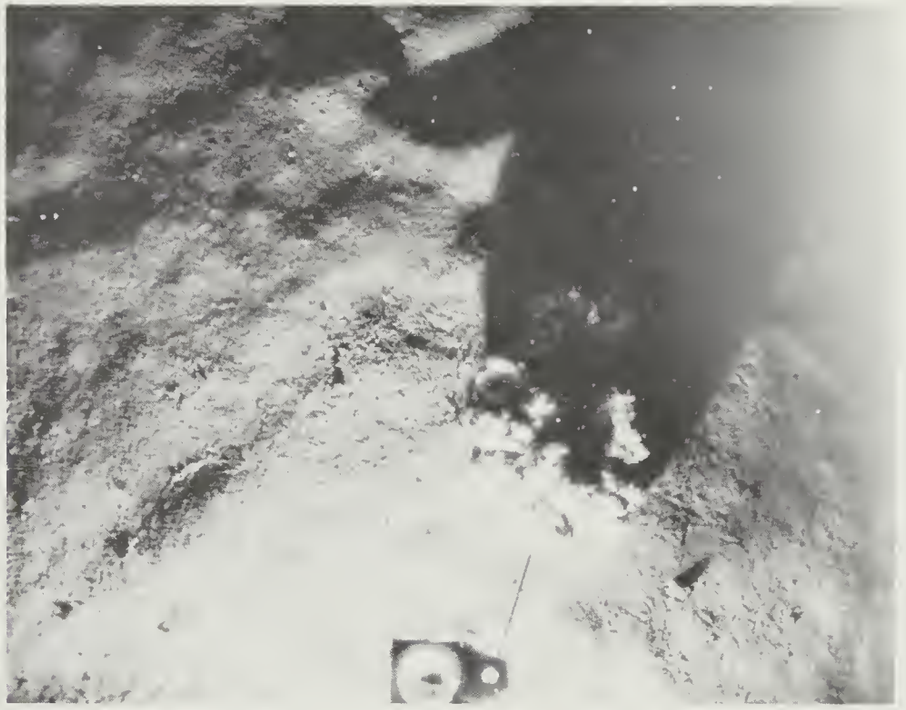
K114-10

K115-4

K117-8



K118-6

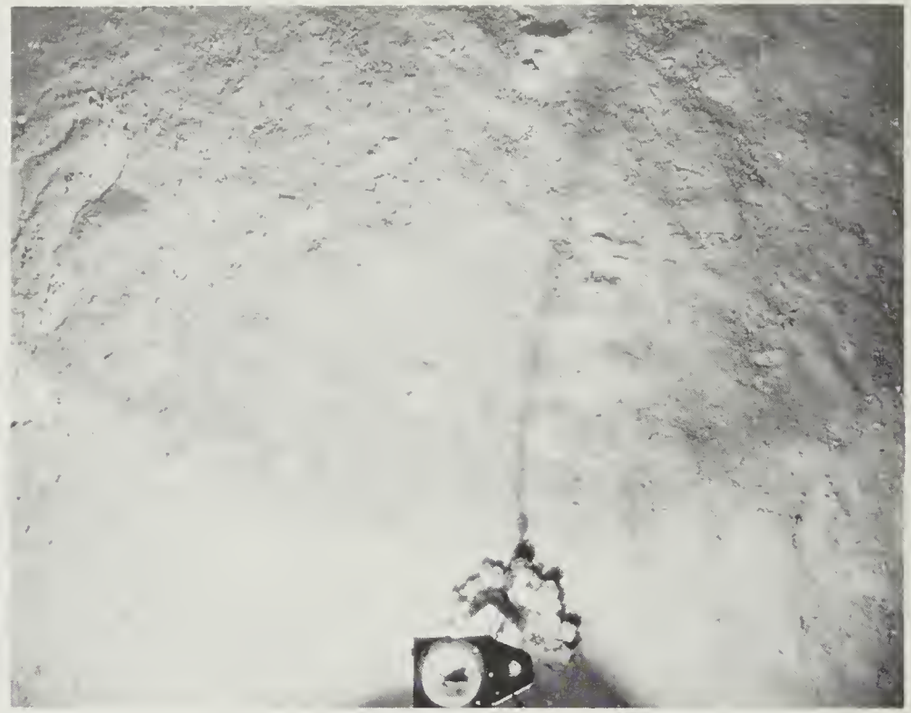


K119-1

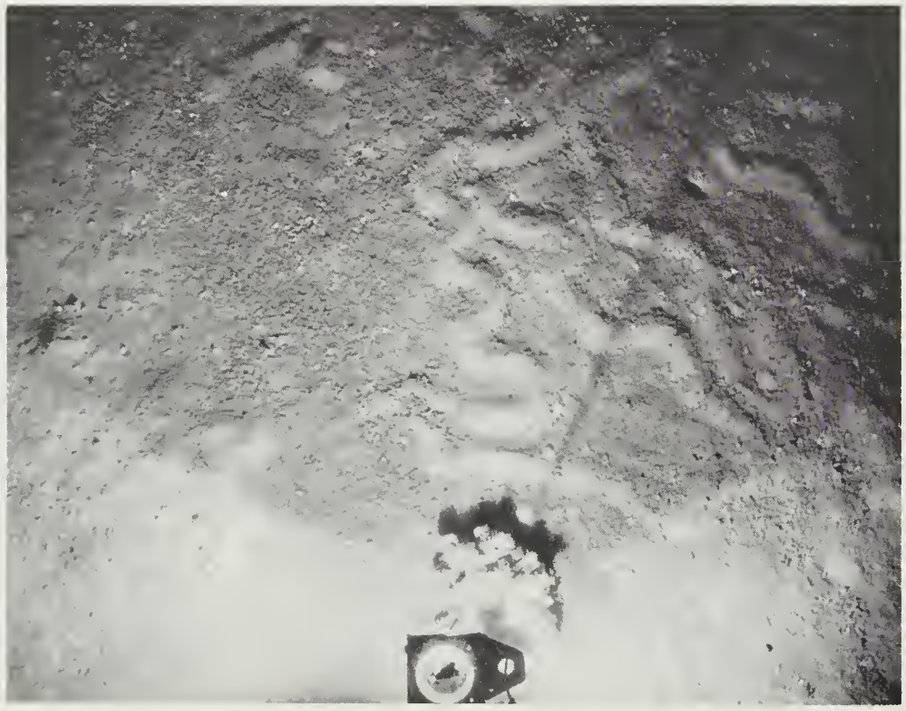
K119-2

K120-3

K120-7

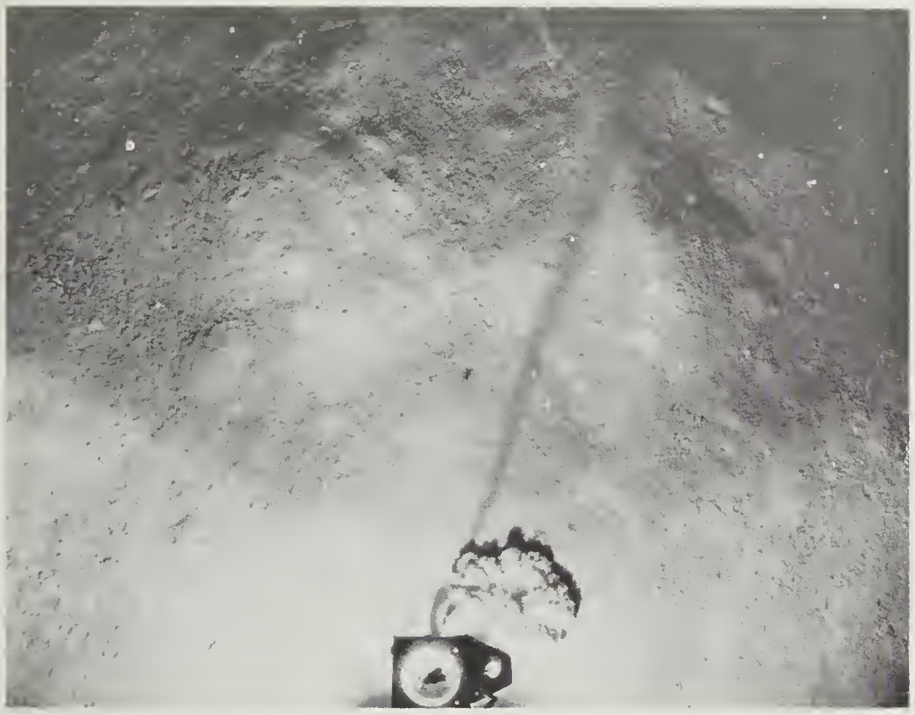


K121-8



K121-16

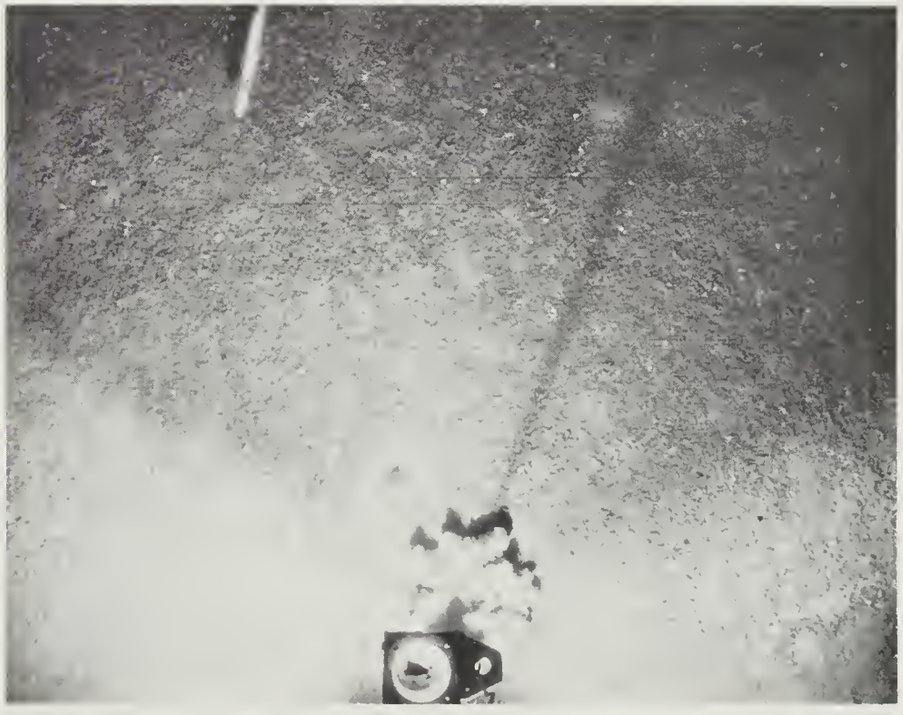
K122-1



K122-4

K123-13

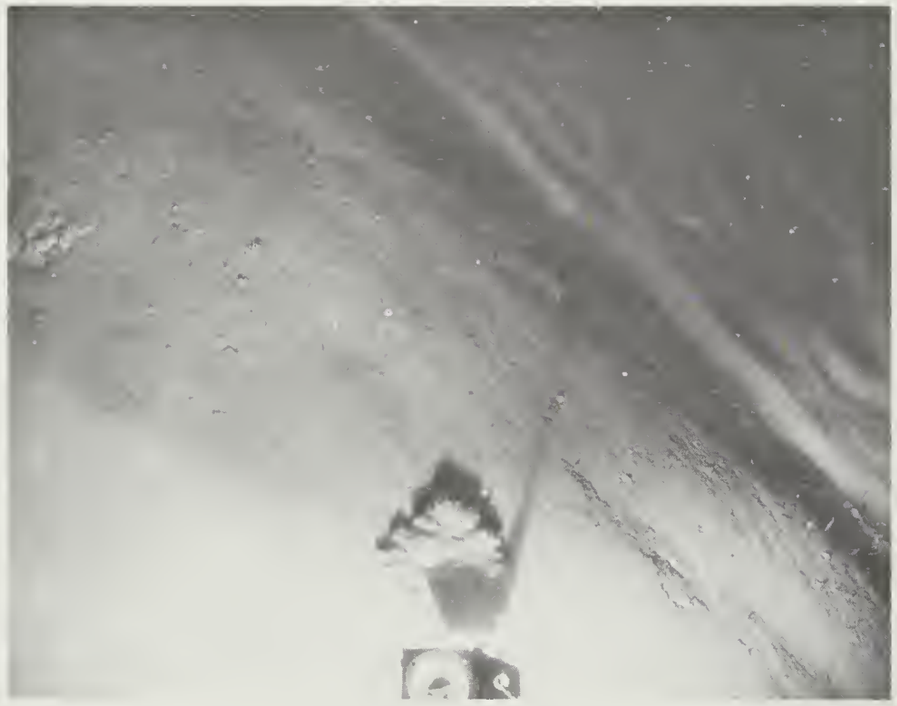
K124-3



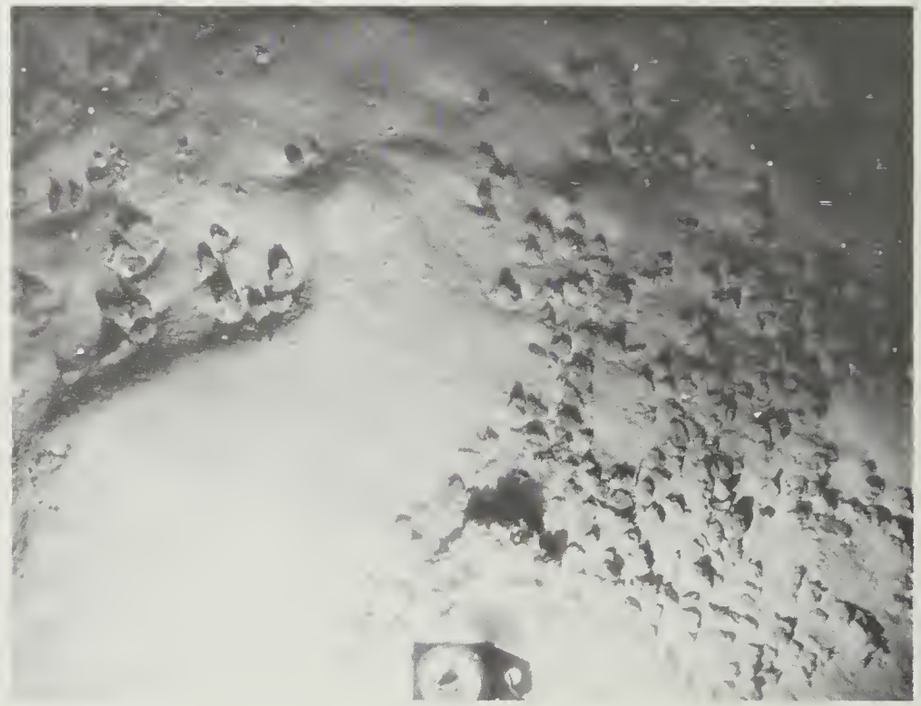
K125-12

K125-14

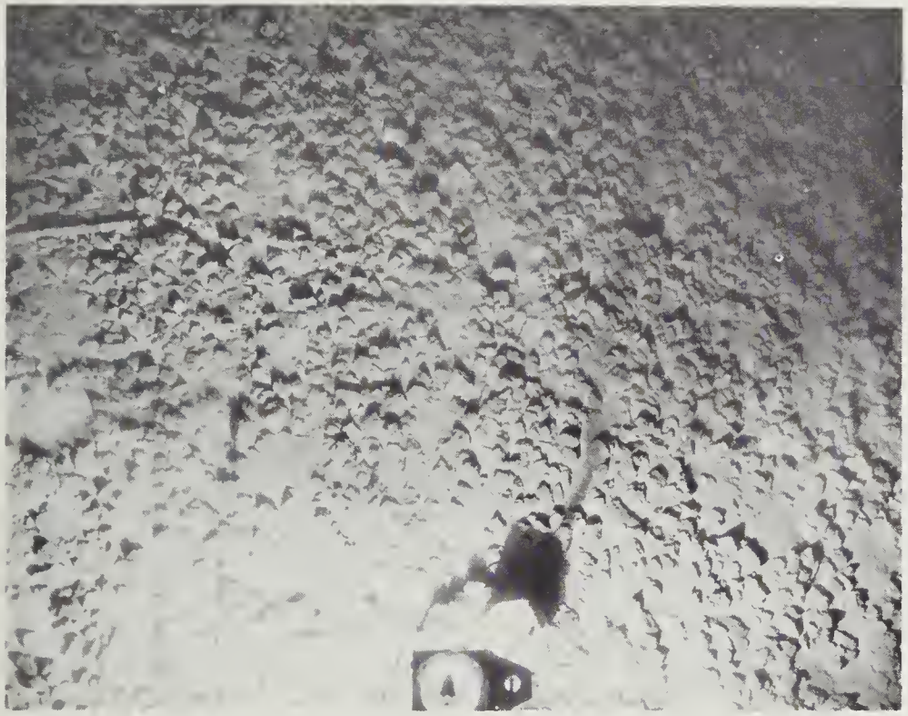
K126-6



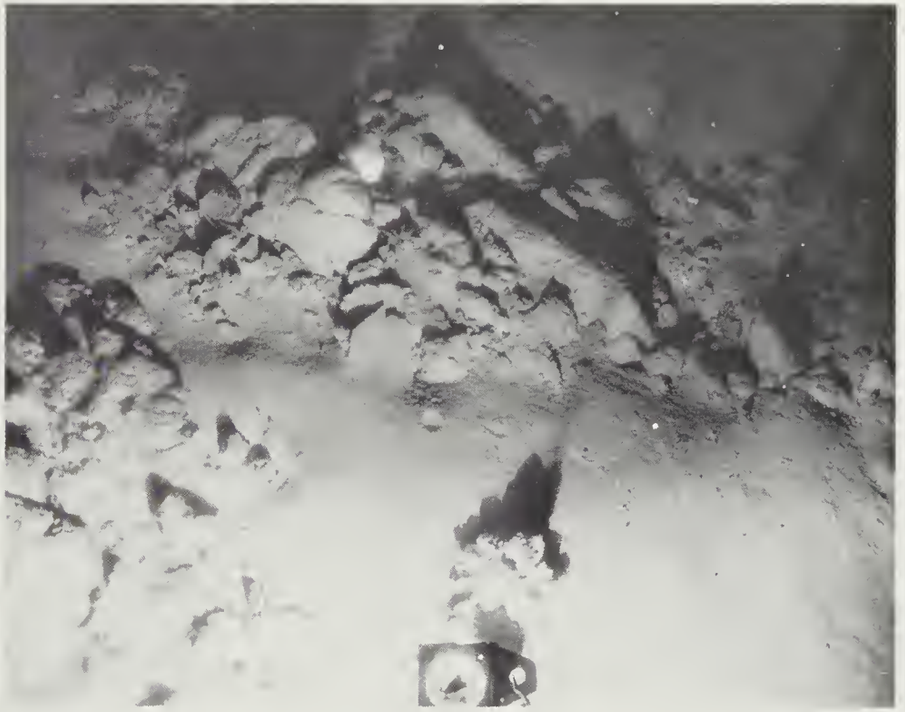
K126-10



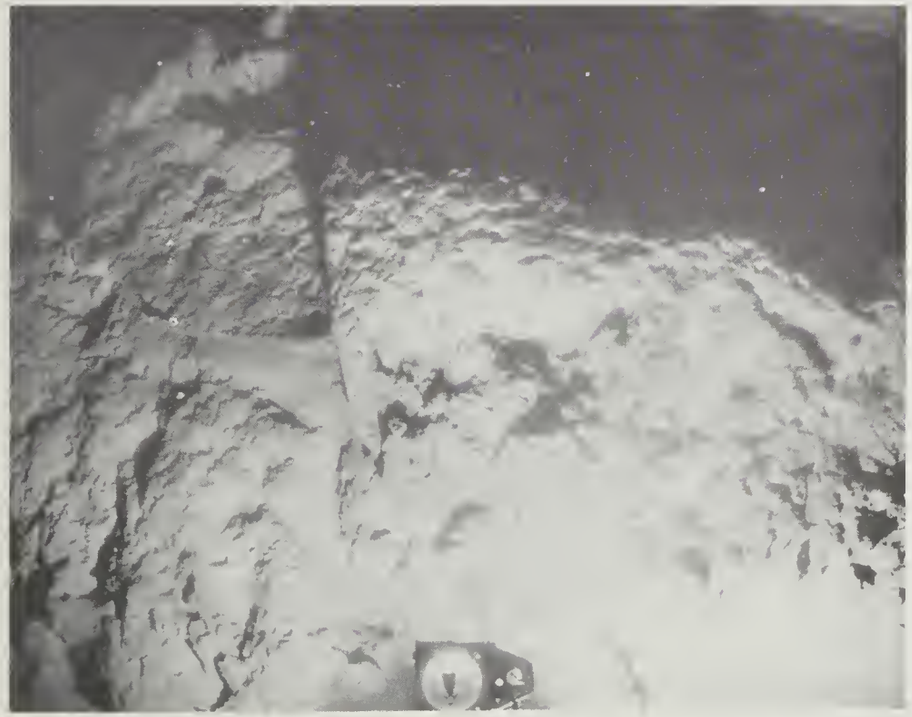
K126-17



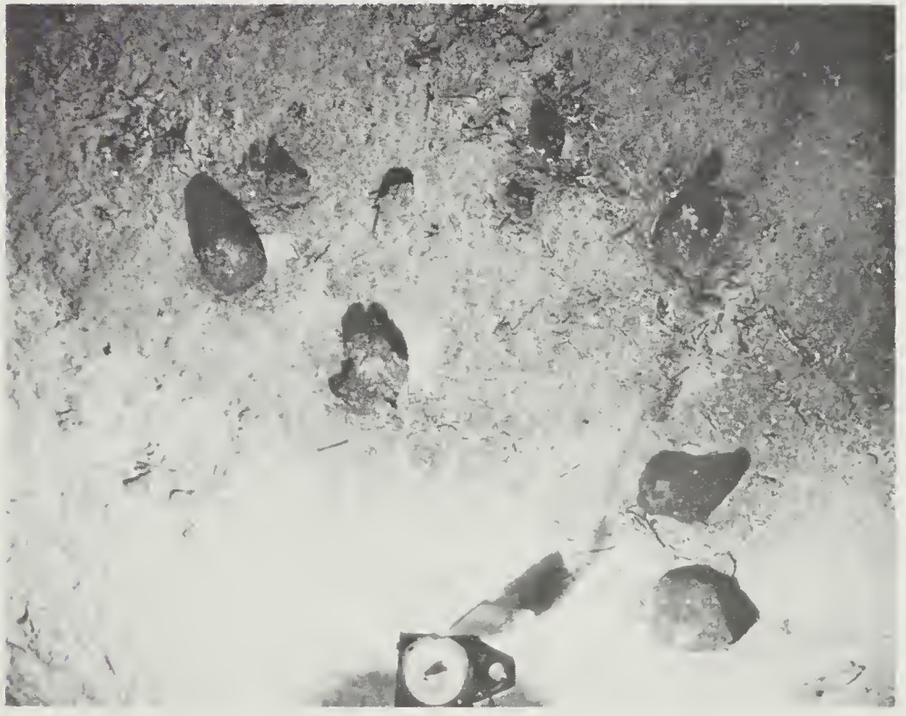
K126-20



K126-24

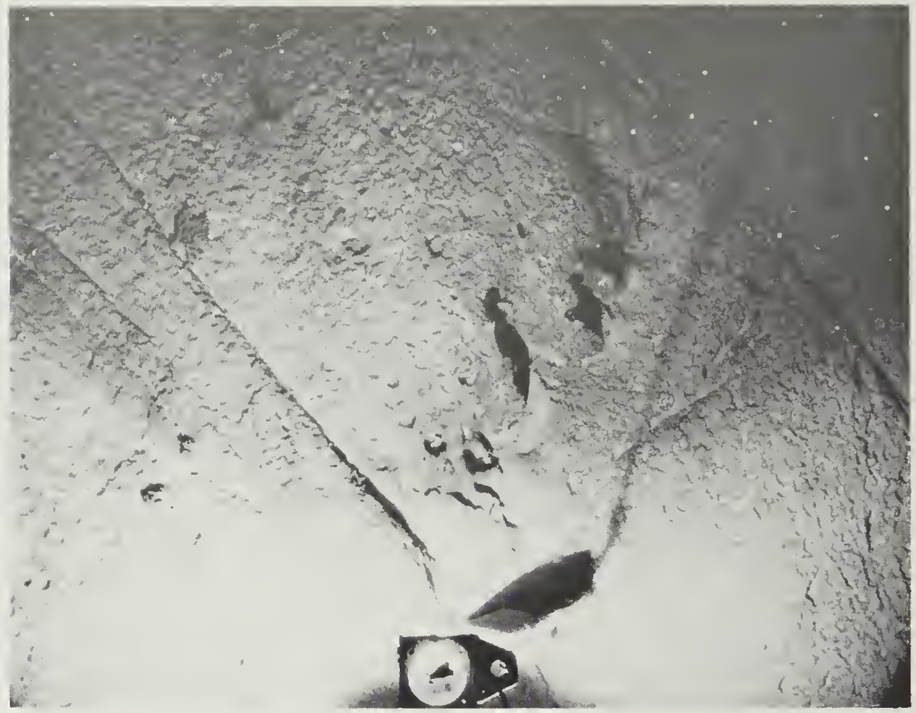


K126-26



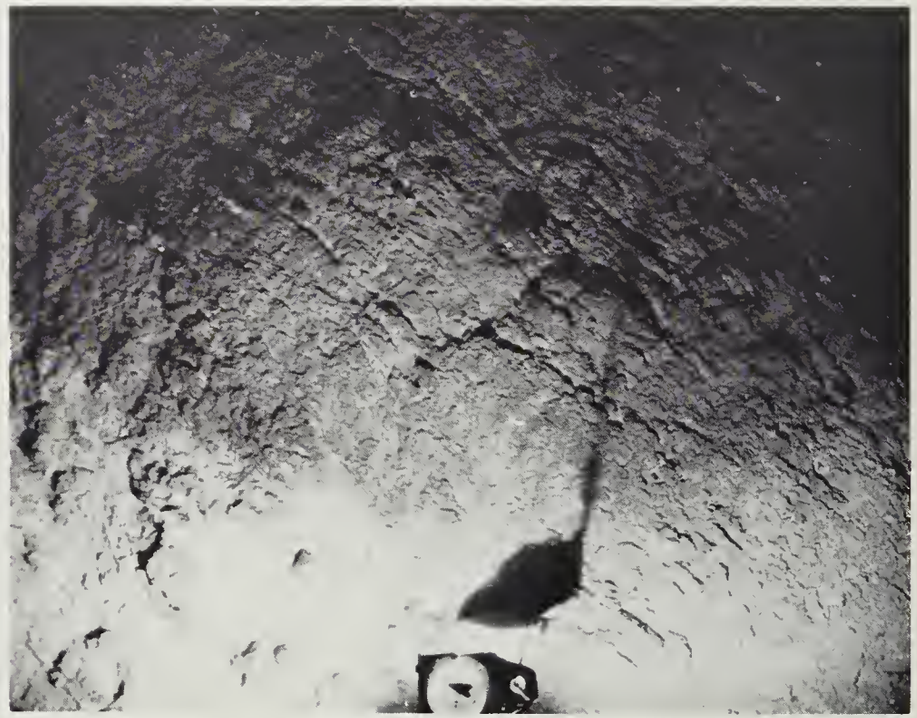
K127-7

K127-9



K127-12

K127-14



K127-18

K127-24

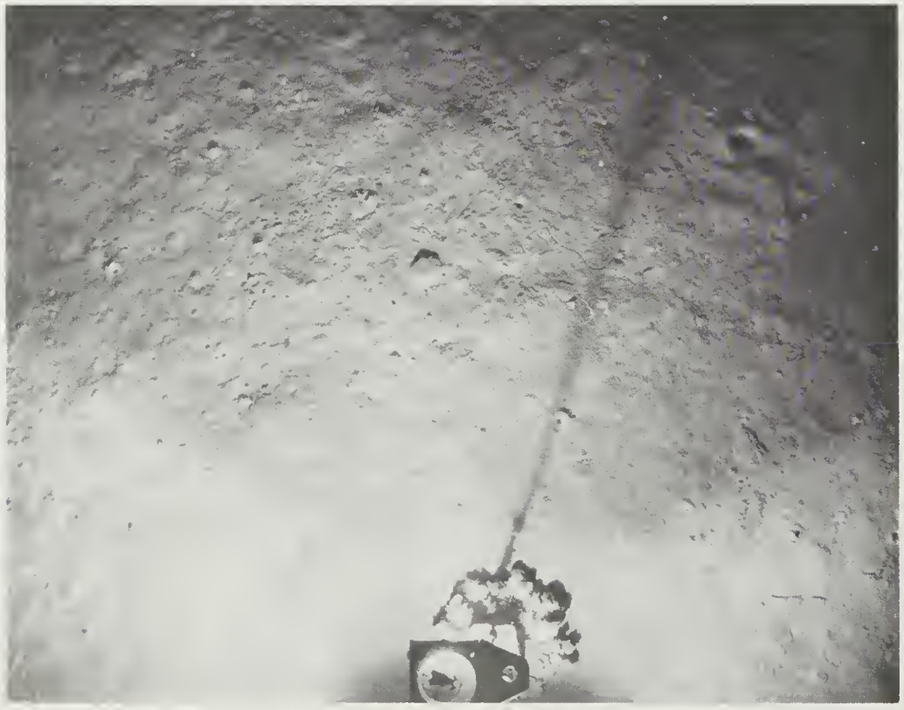
K127-31

K128-13

K128-14

K129-5

K129-8



K130-7

K131-2

K131-3

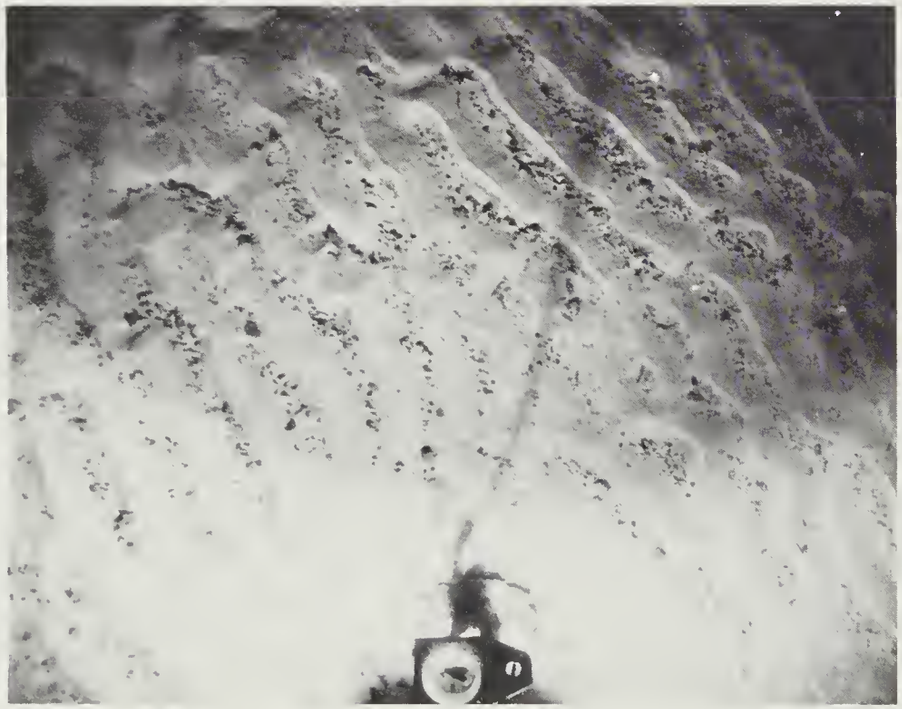
K131-6

K132-4

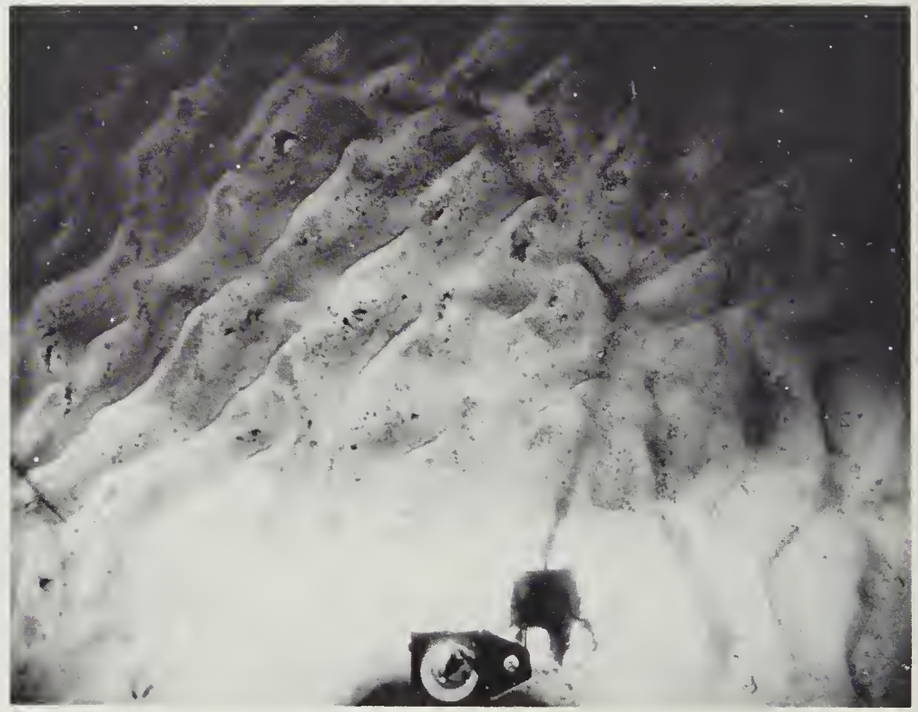
K133-13

K134-1

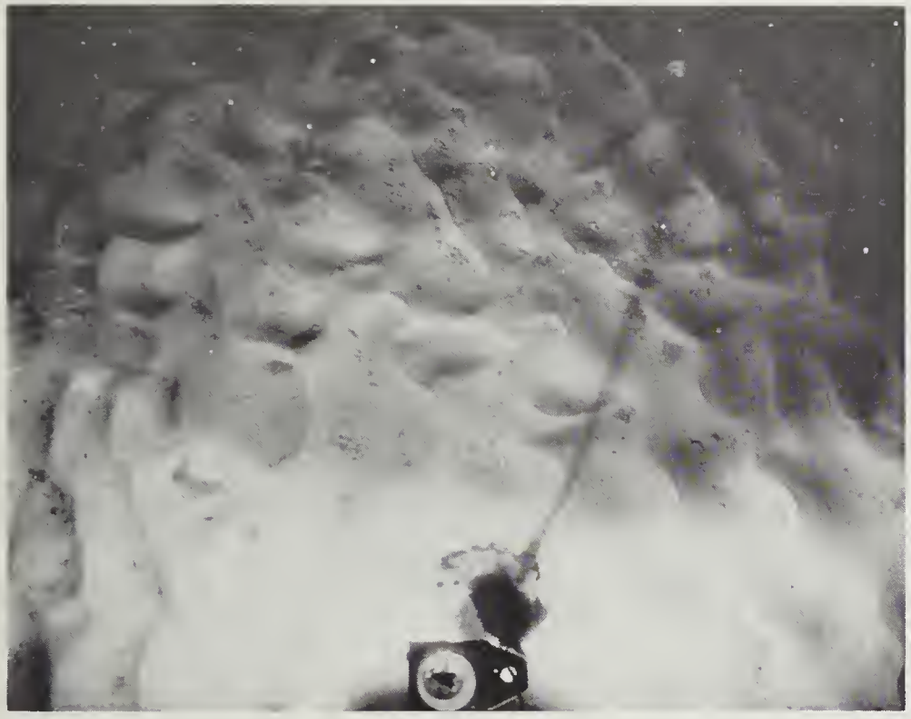
K134-7



K135-6



K135-9



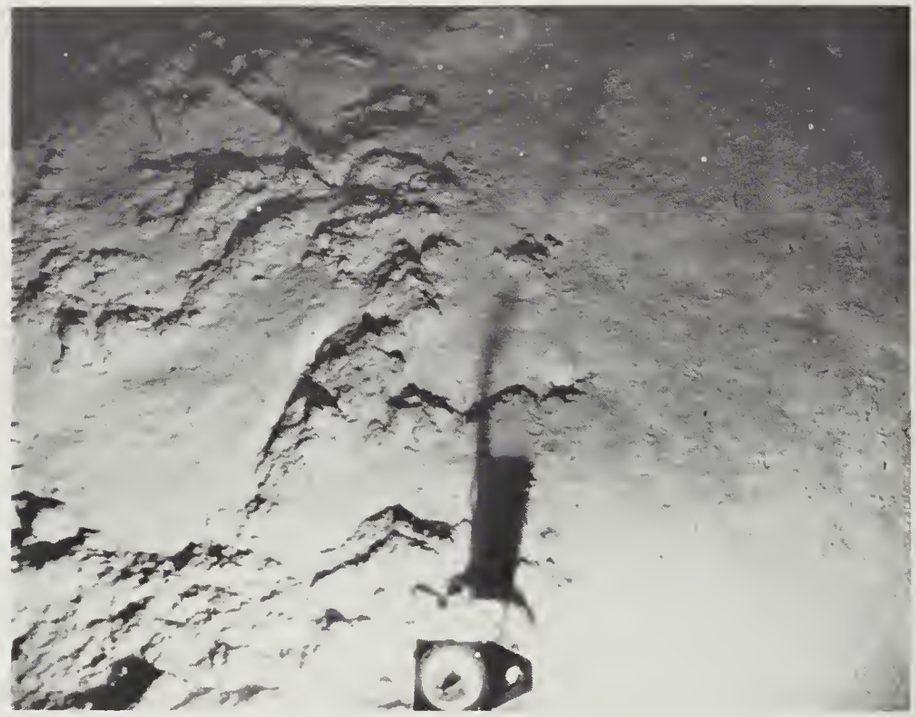
K135-12

K136-8

K137-11

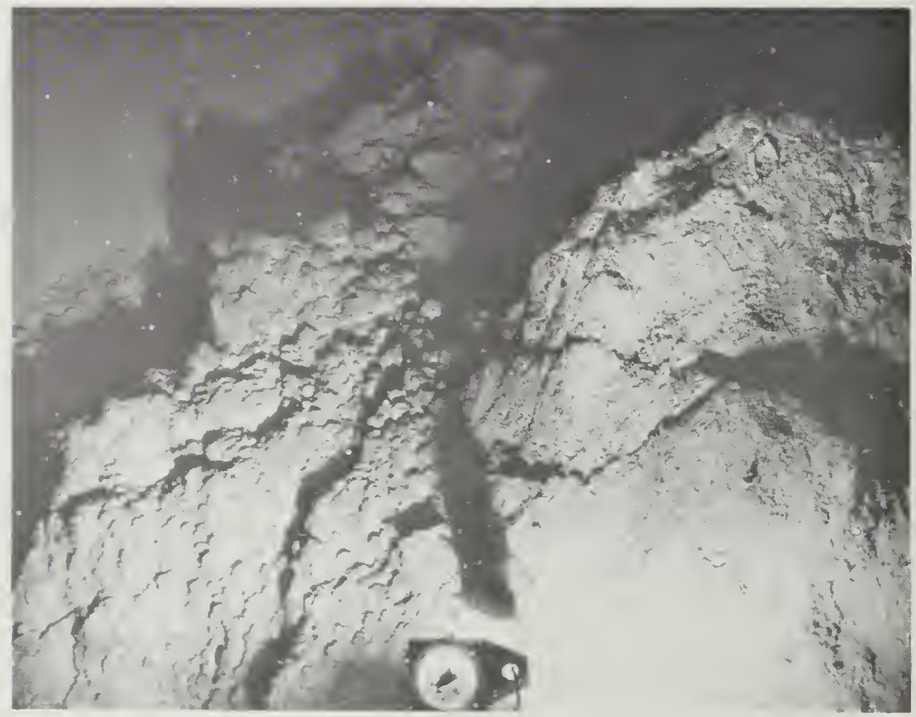
K137-13

K138-5



K138-6

K138-12



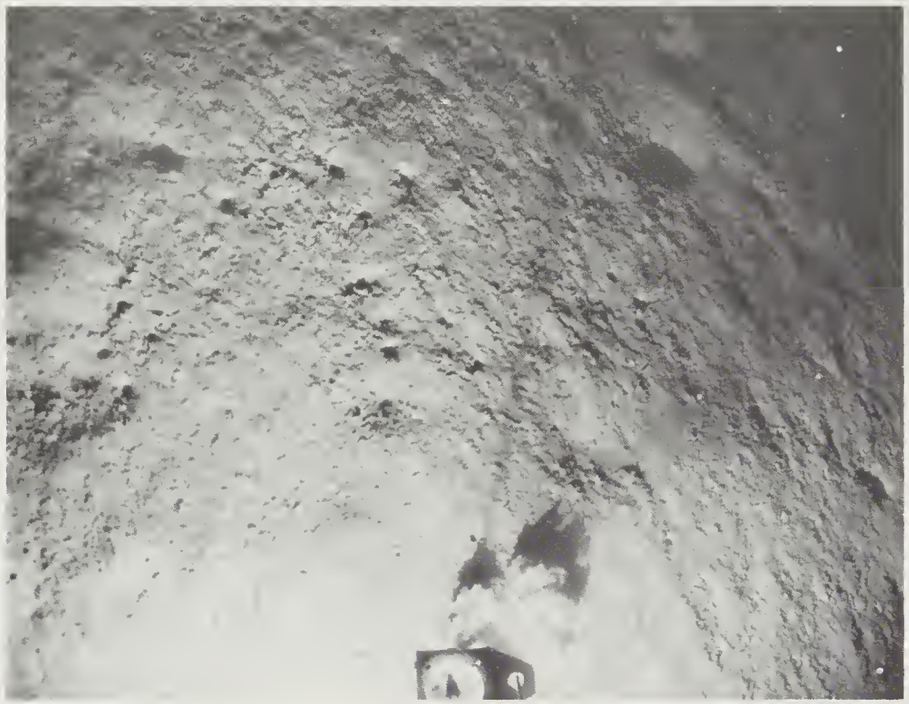
K138-13

K139-12

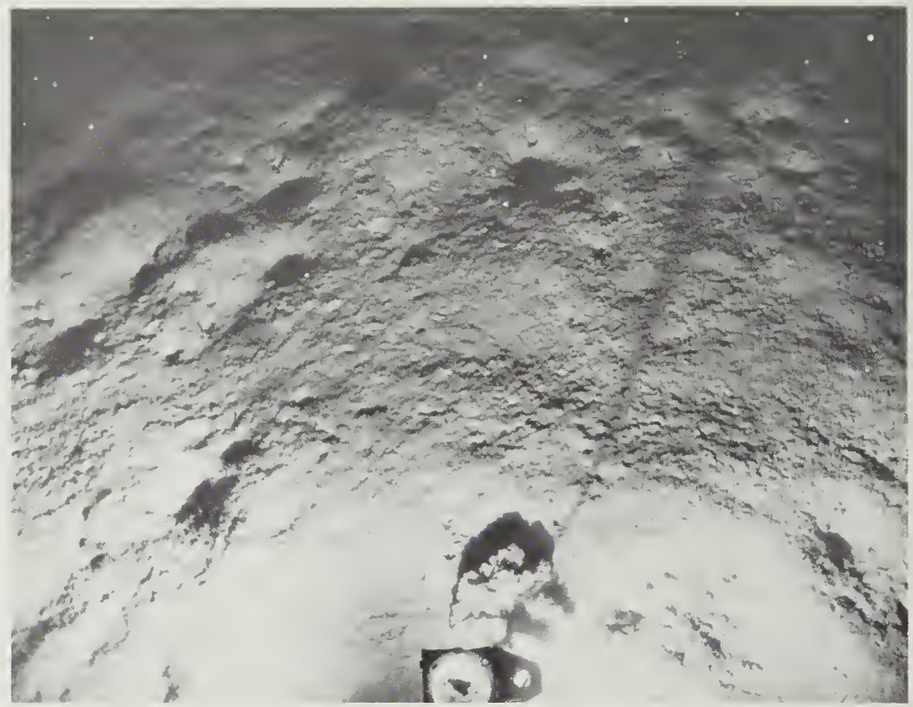
K140-3

K140-9

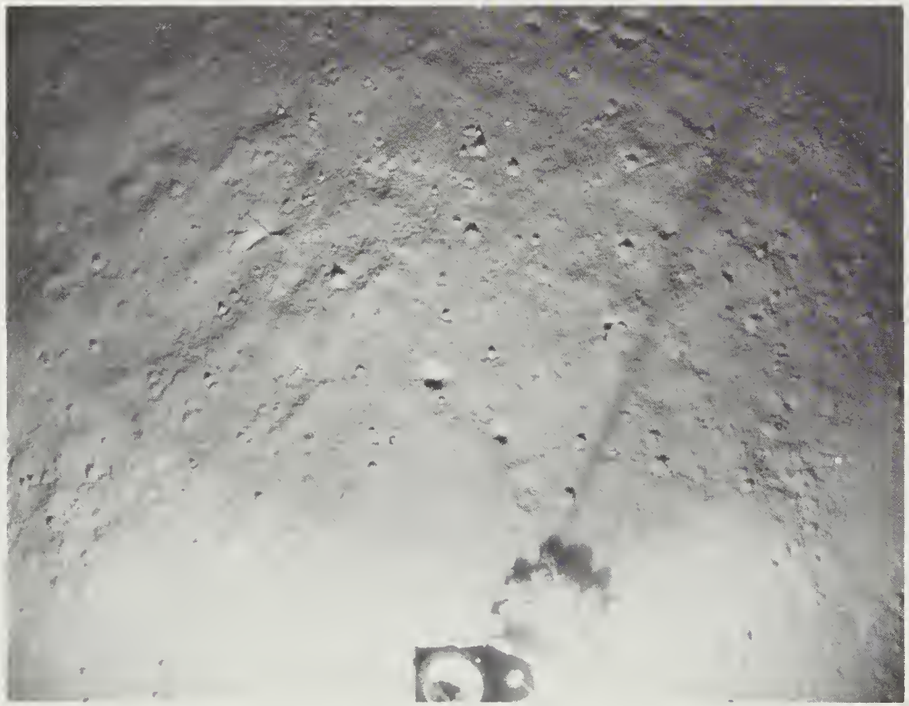
K140-14



K141-14

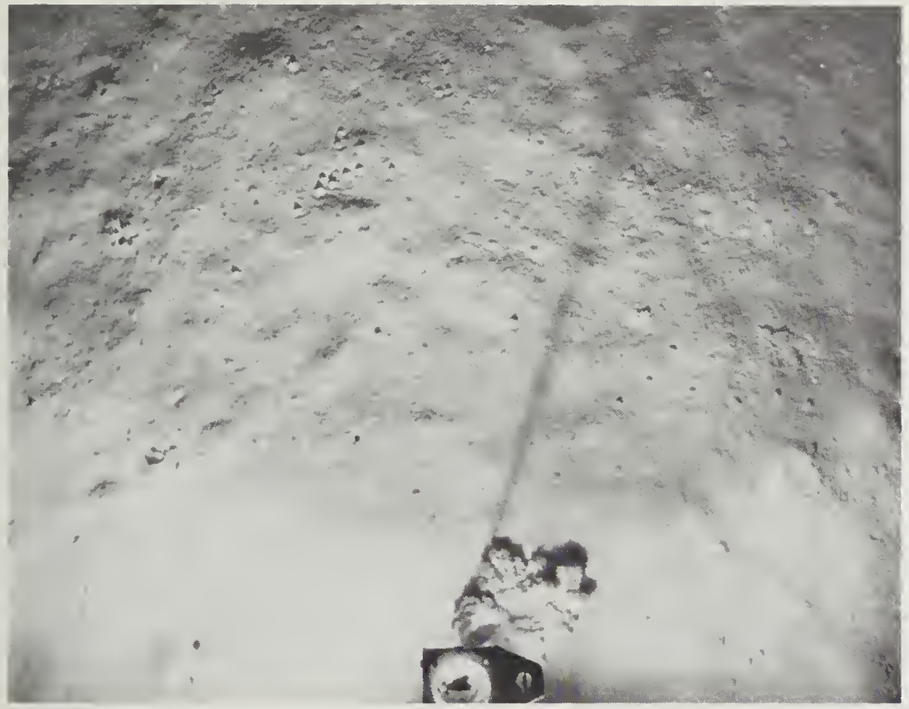


K141-15

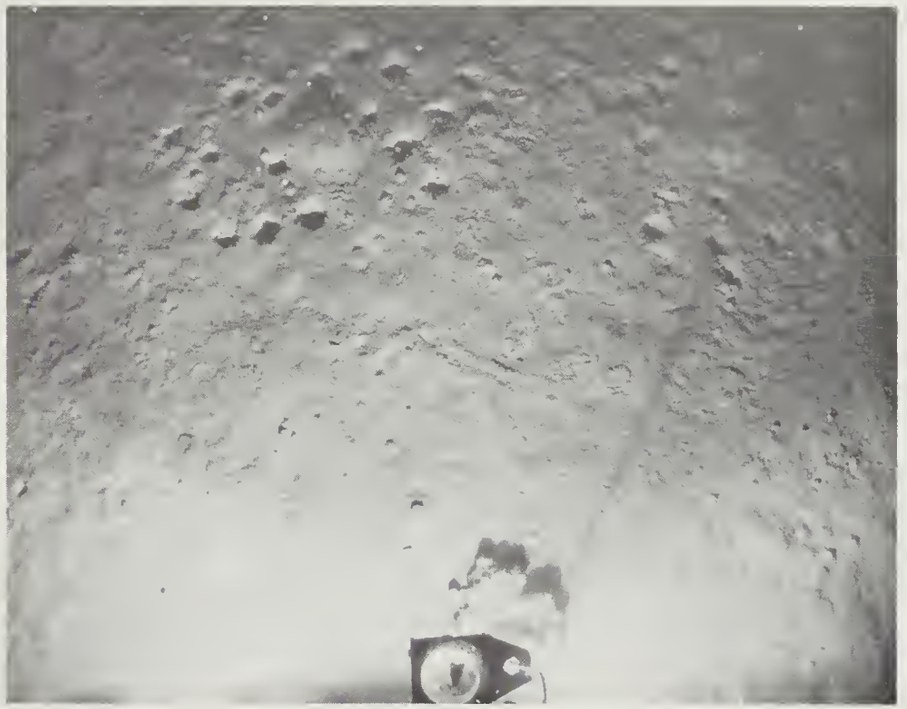


K142-12

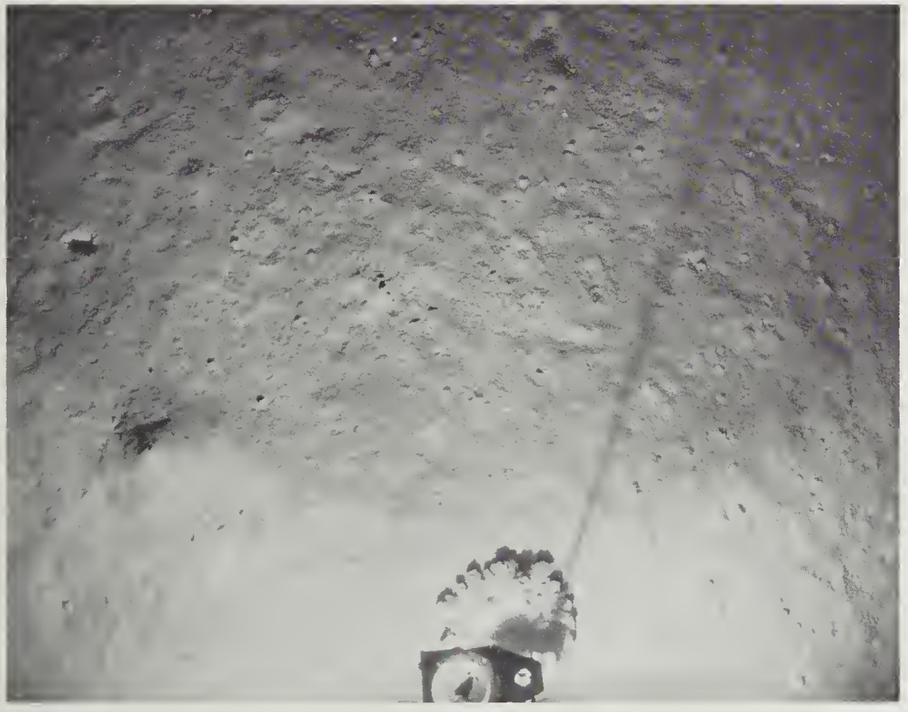
K143-7



K144-15

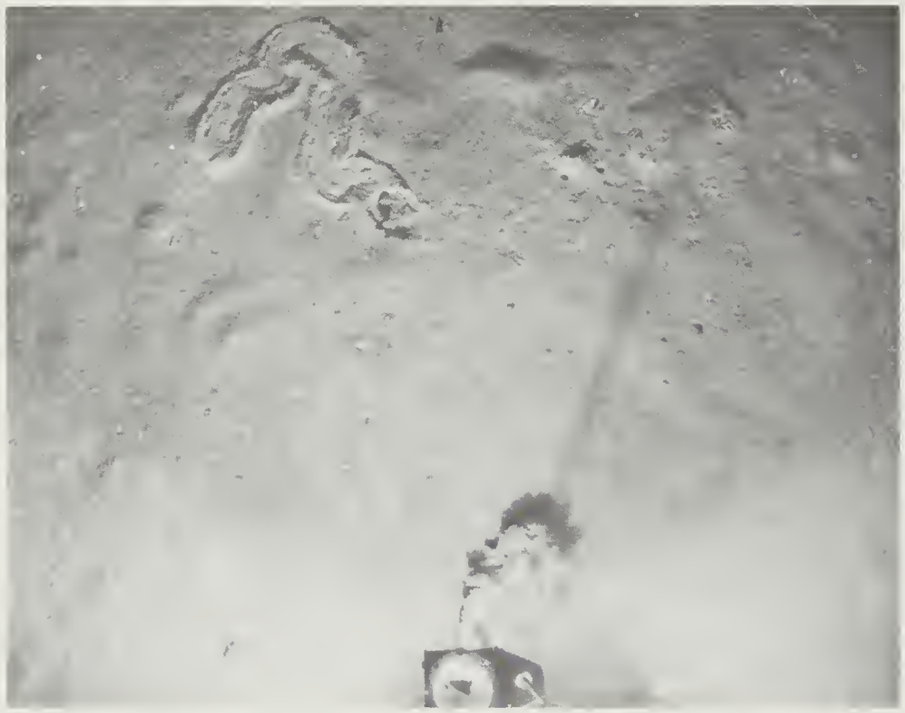


K145-4



K145-5

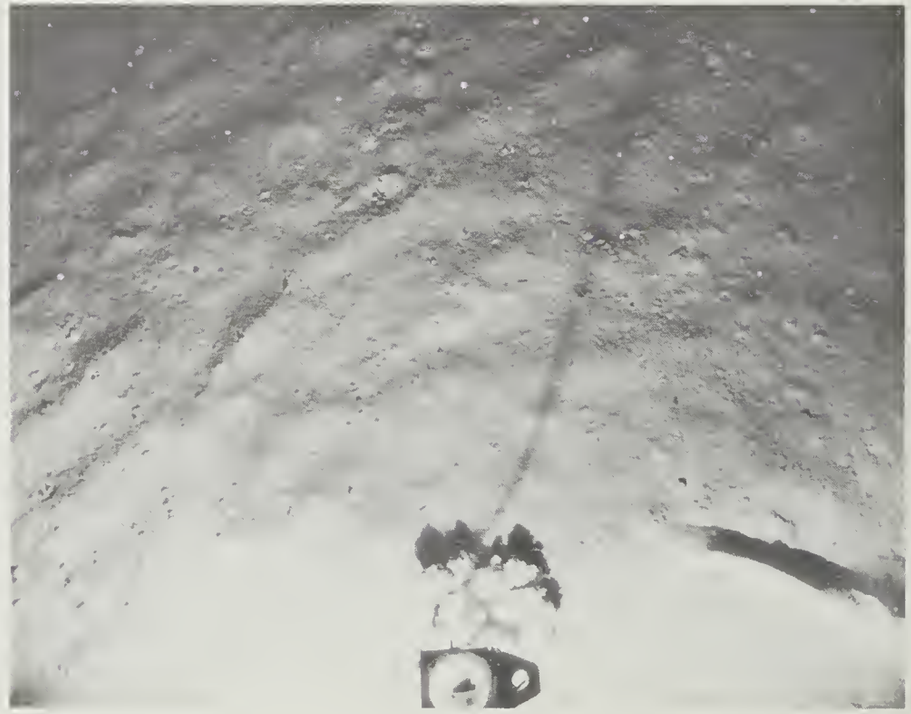
K146-10



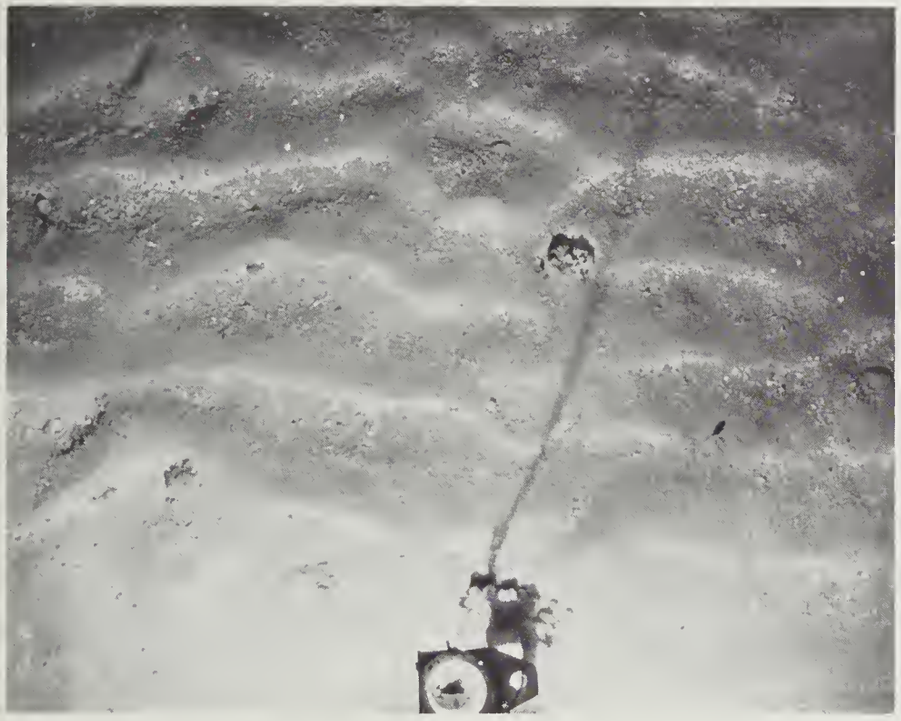
K147-8

K148-15

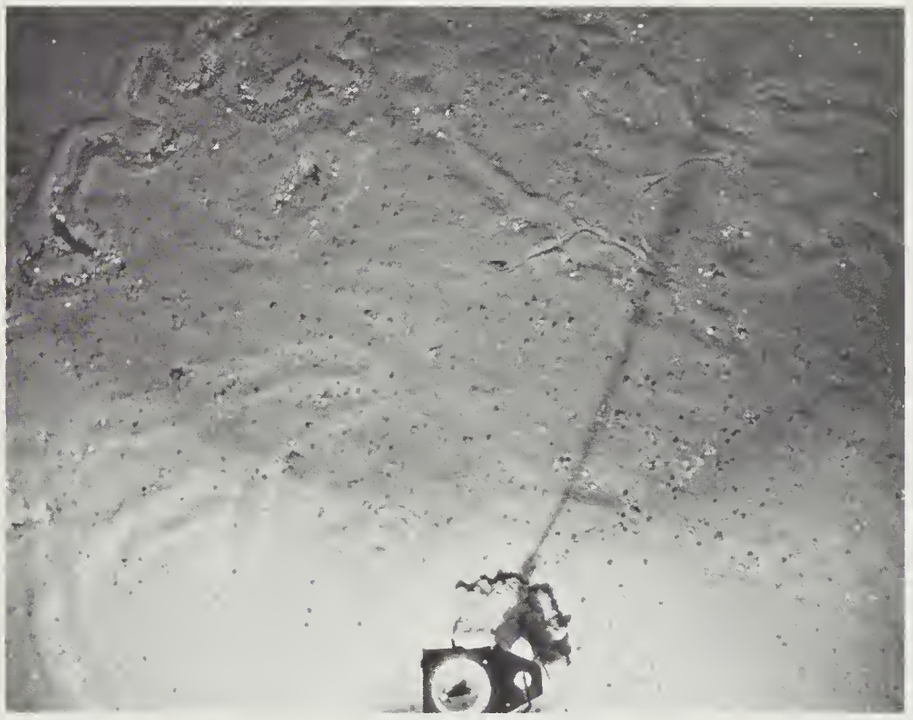
K149-12



K150-4



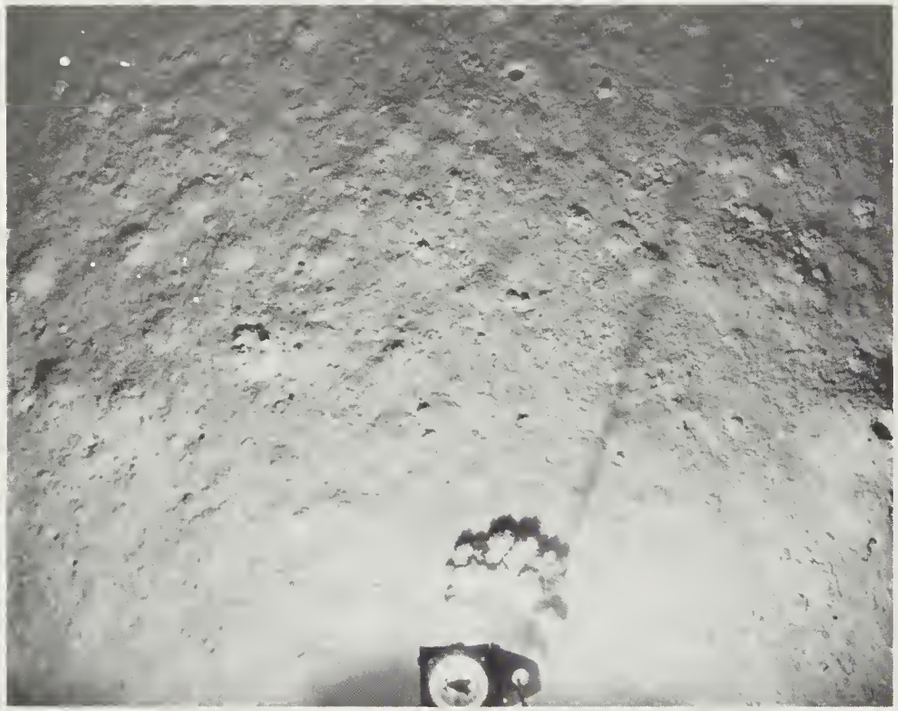
K151-9



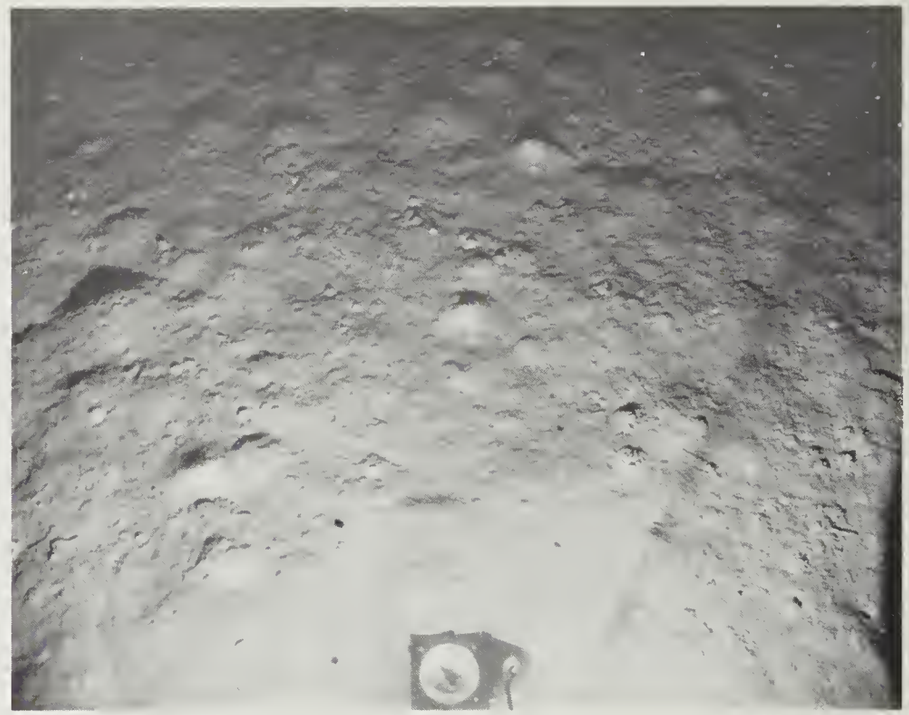
K151-10

K152-2

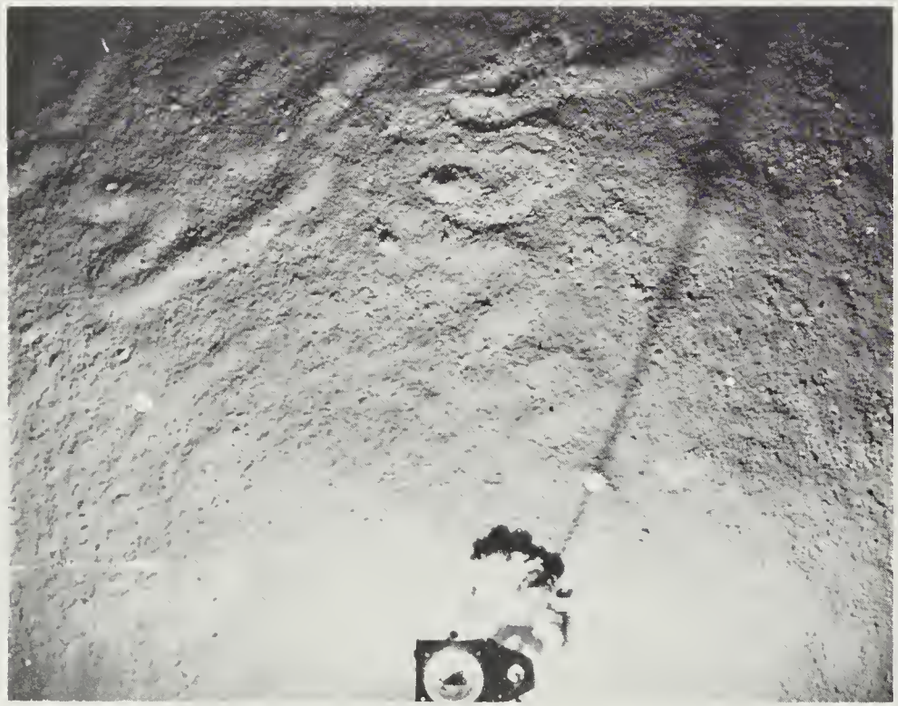
K153-1



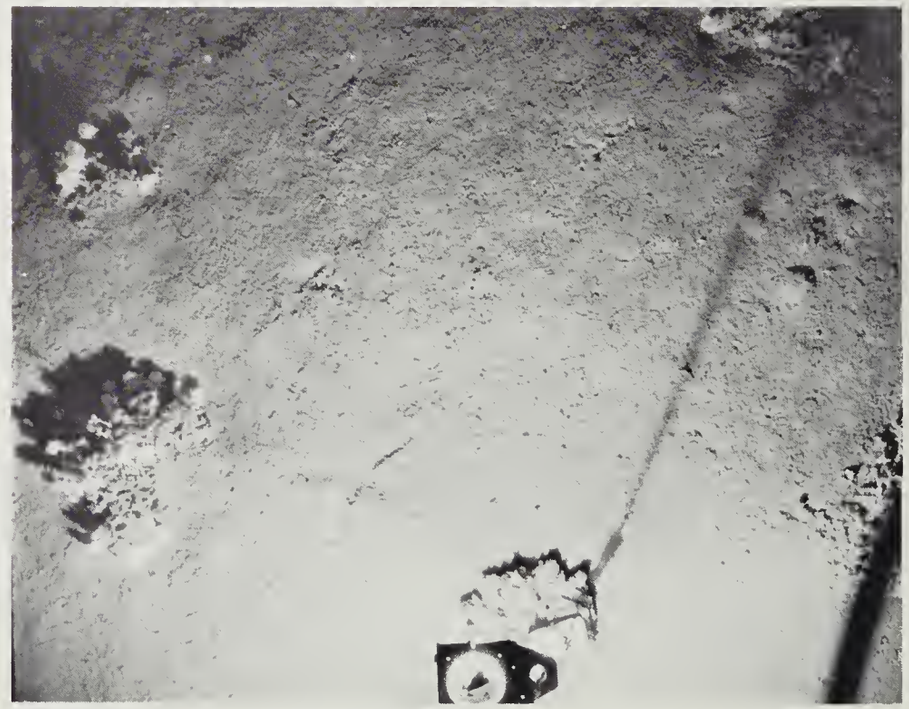
K154-1



K154-7



K155-3

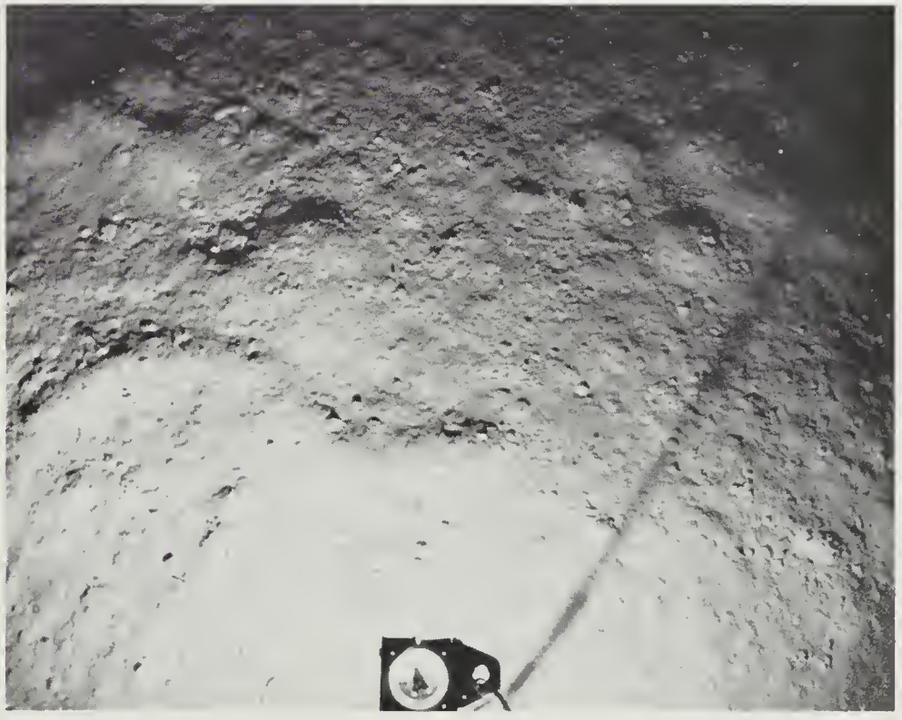


K157-5

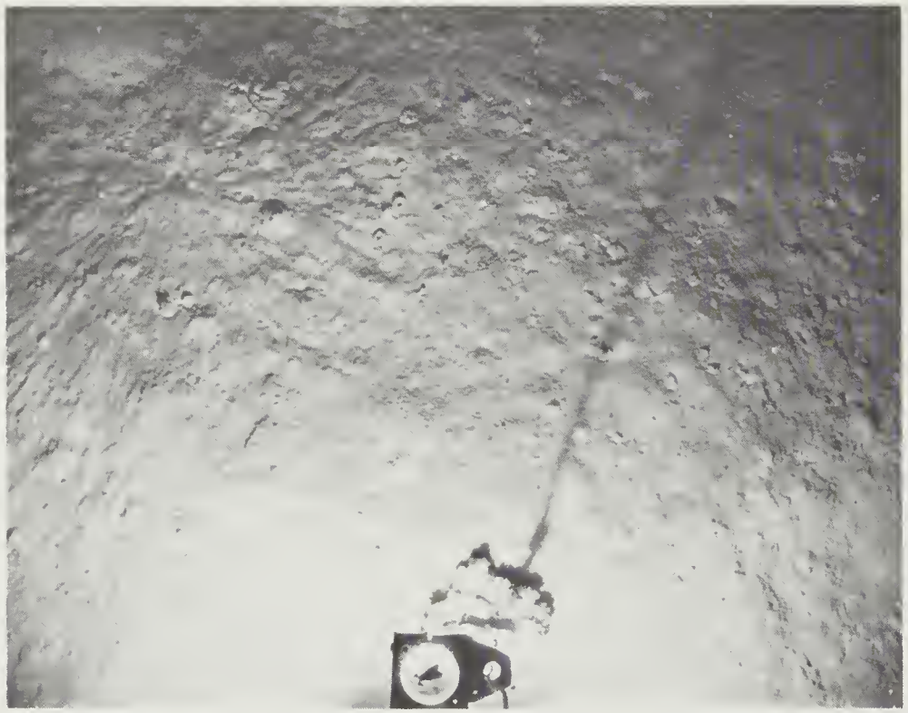
K157-6

K158-1

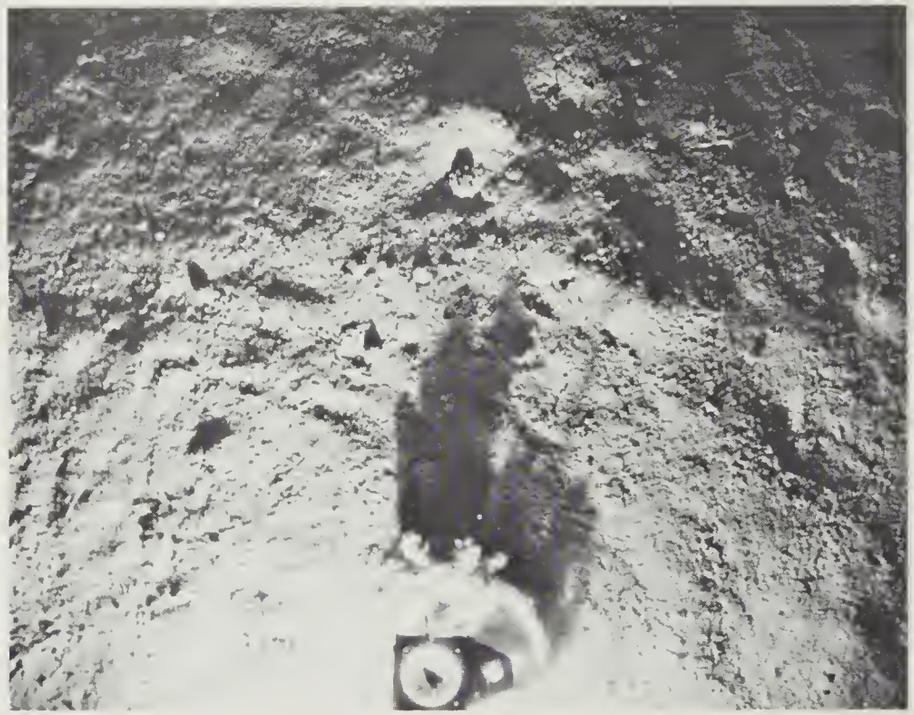
K159-3



K160-3



K160-9



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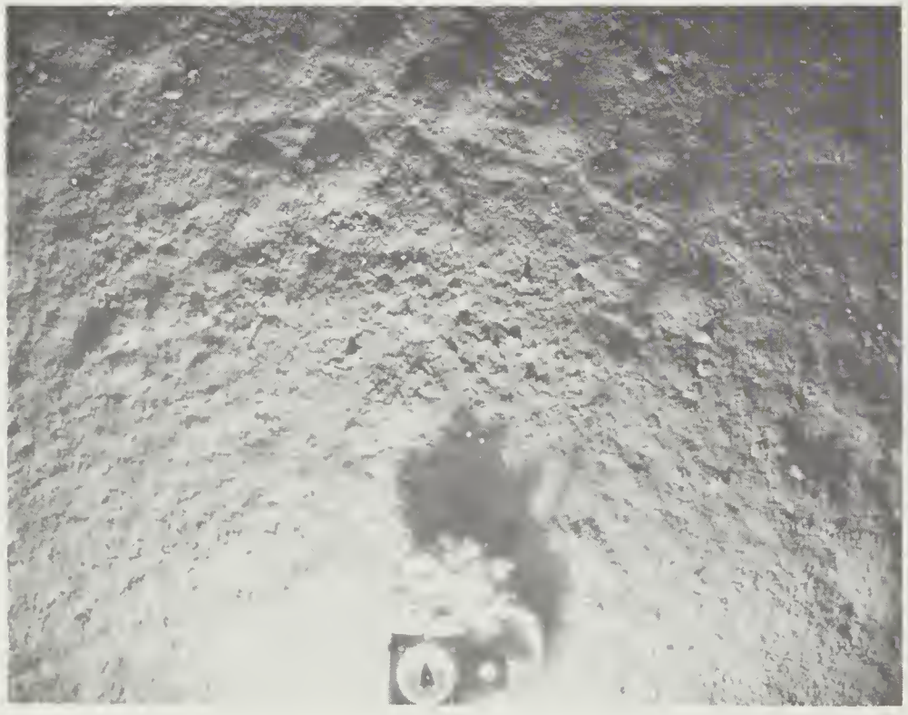

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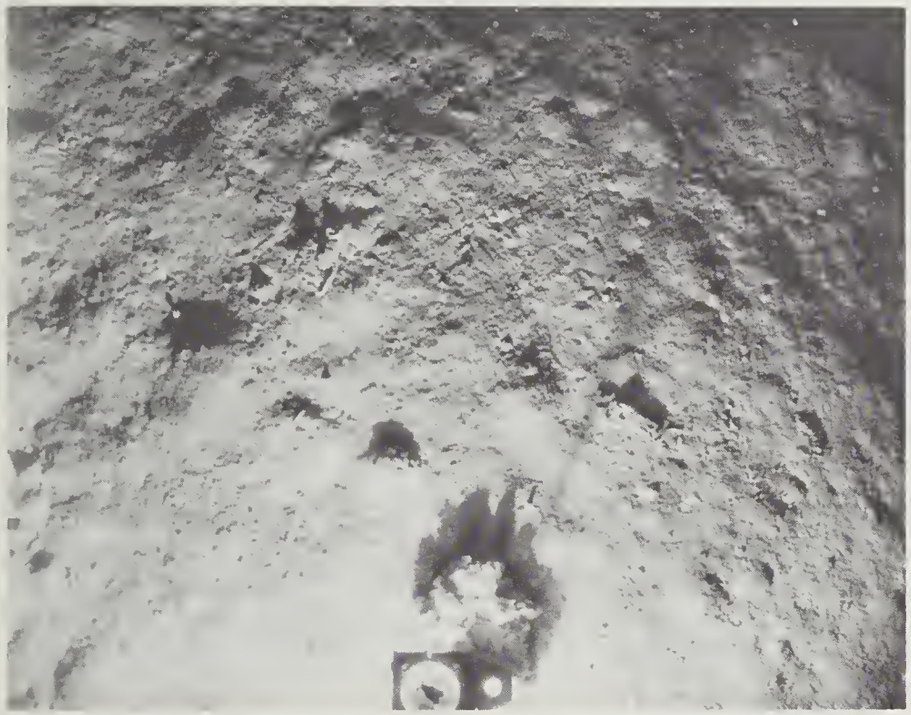

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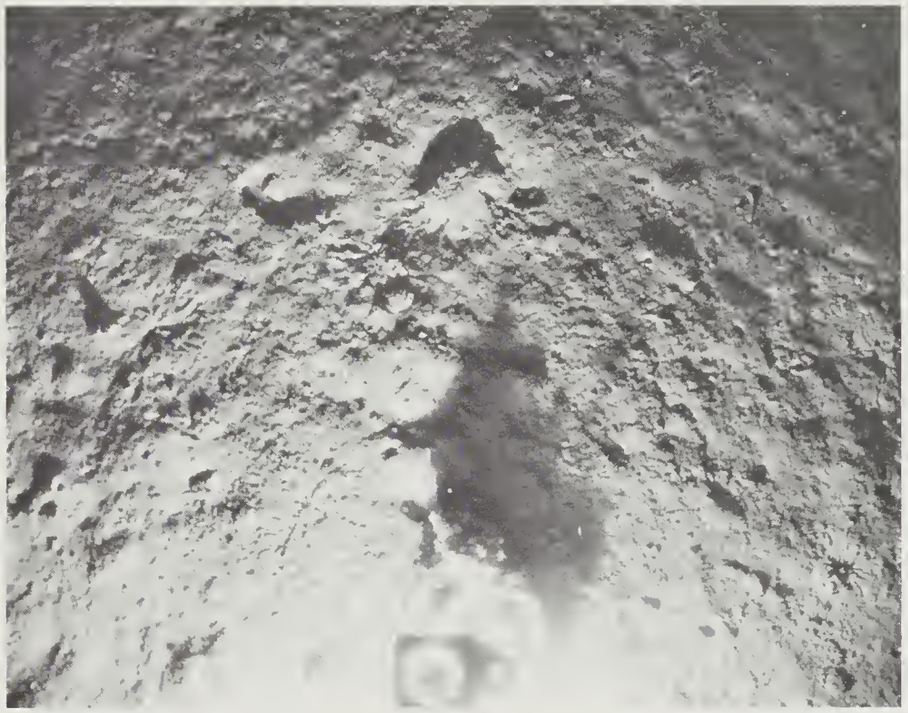

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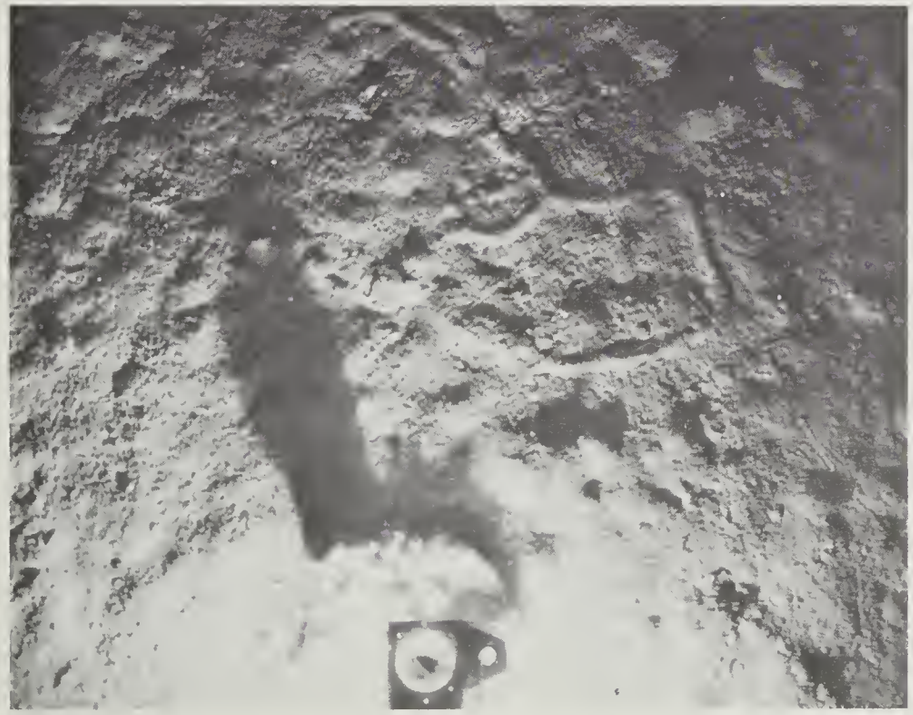

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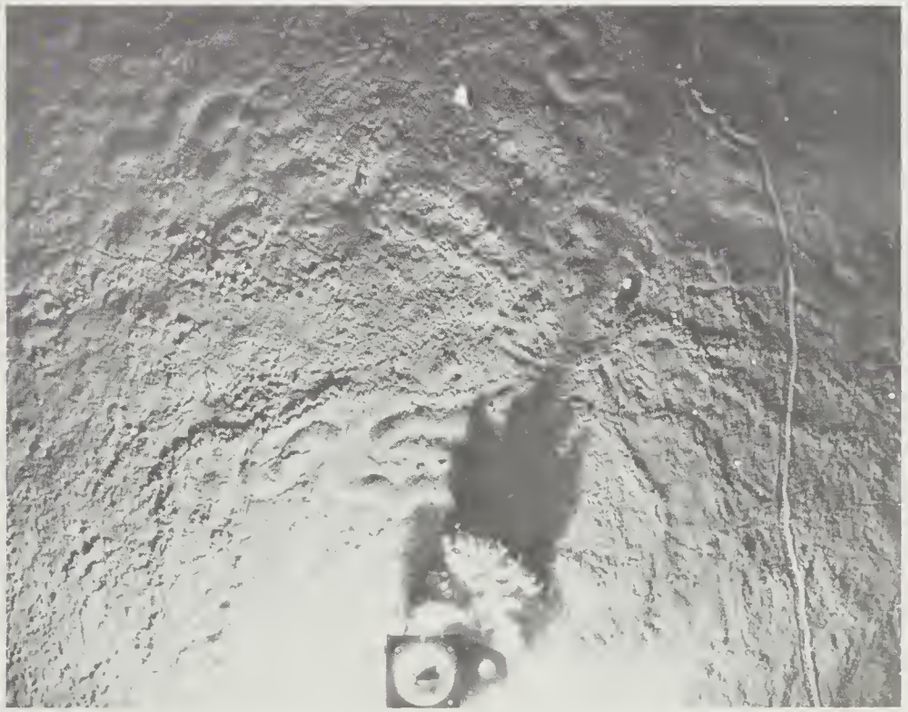

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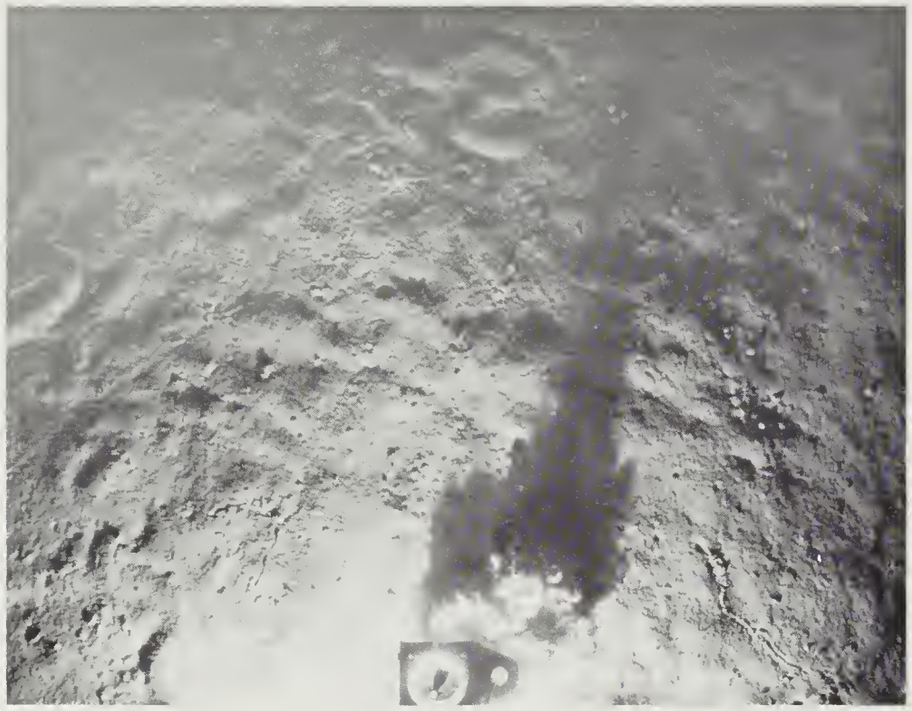

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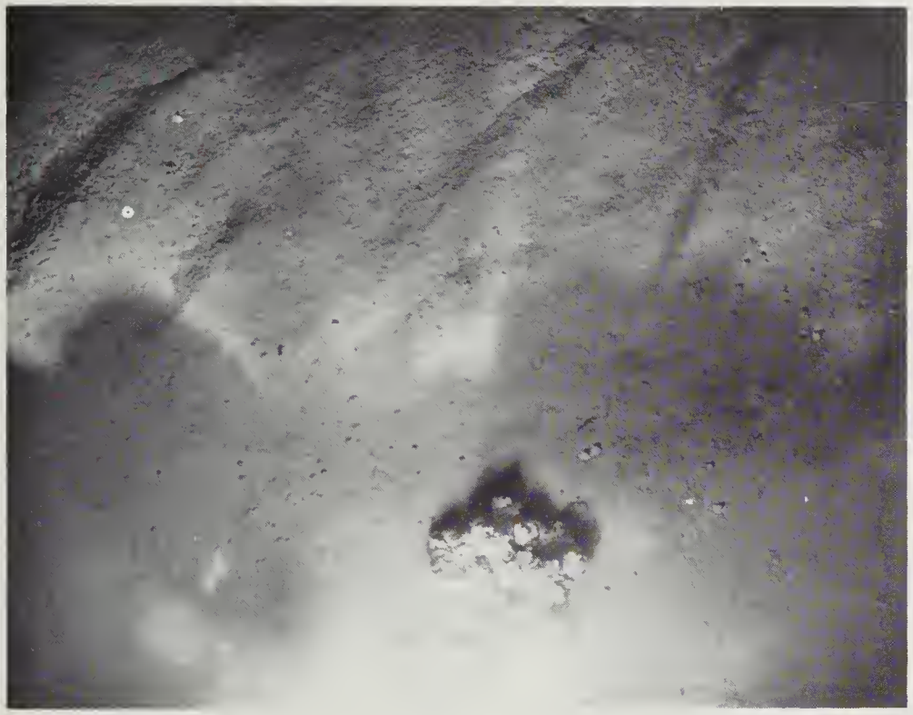
K171-5



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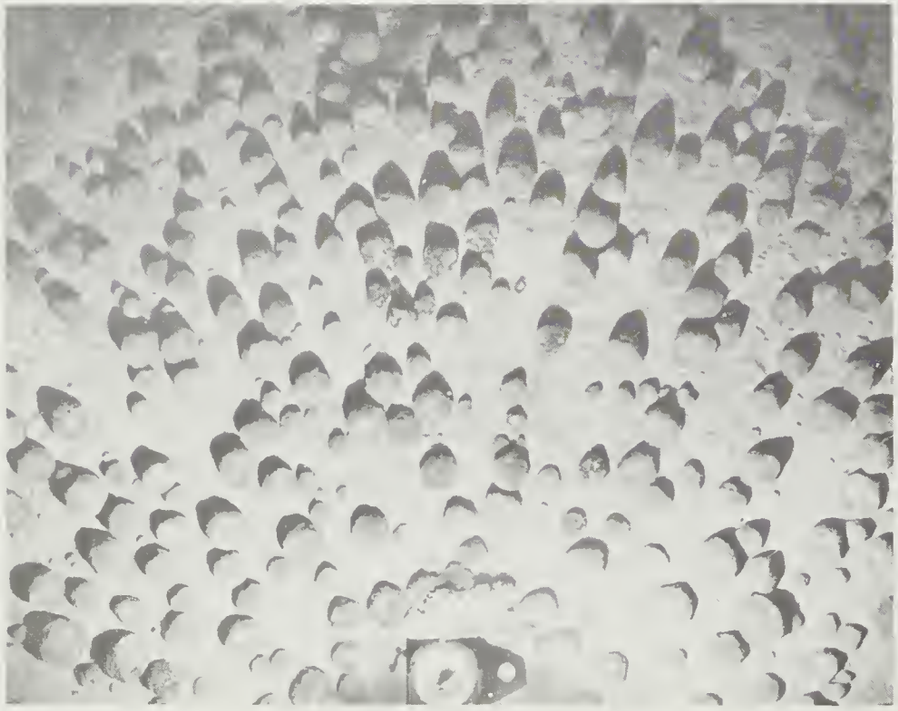
K173-11

K174-3



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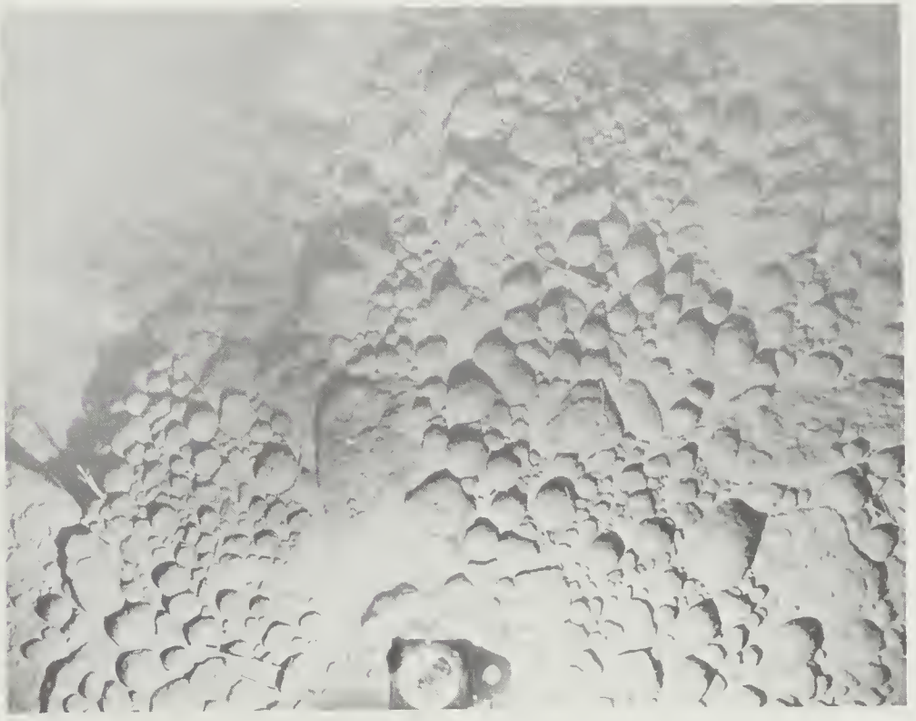

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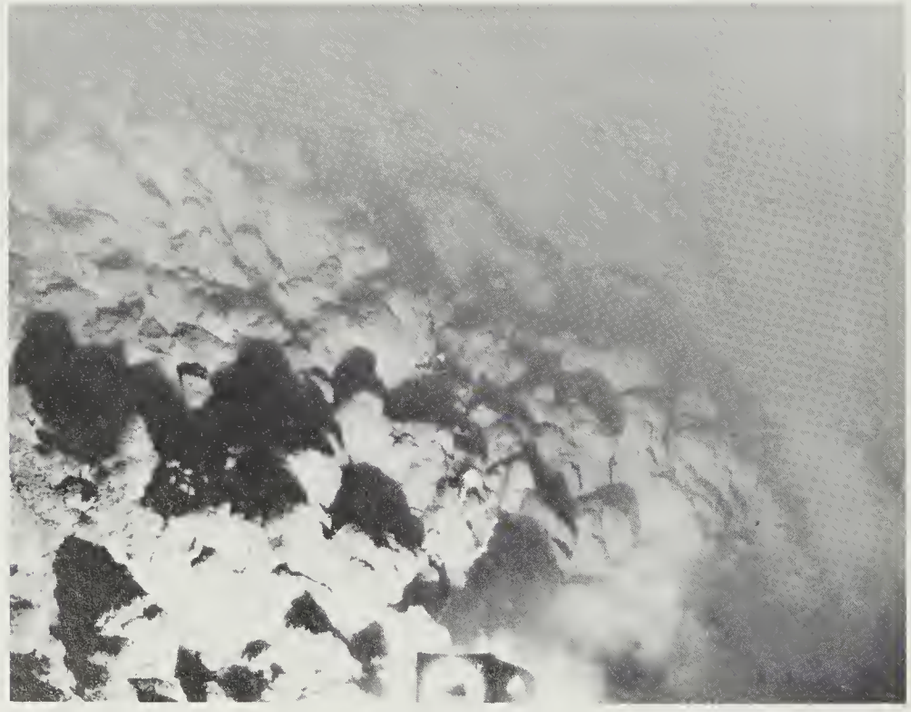

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K177-20

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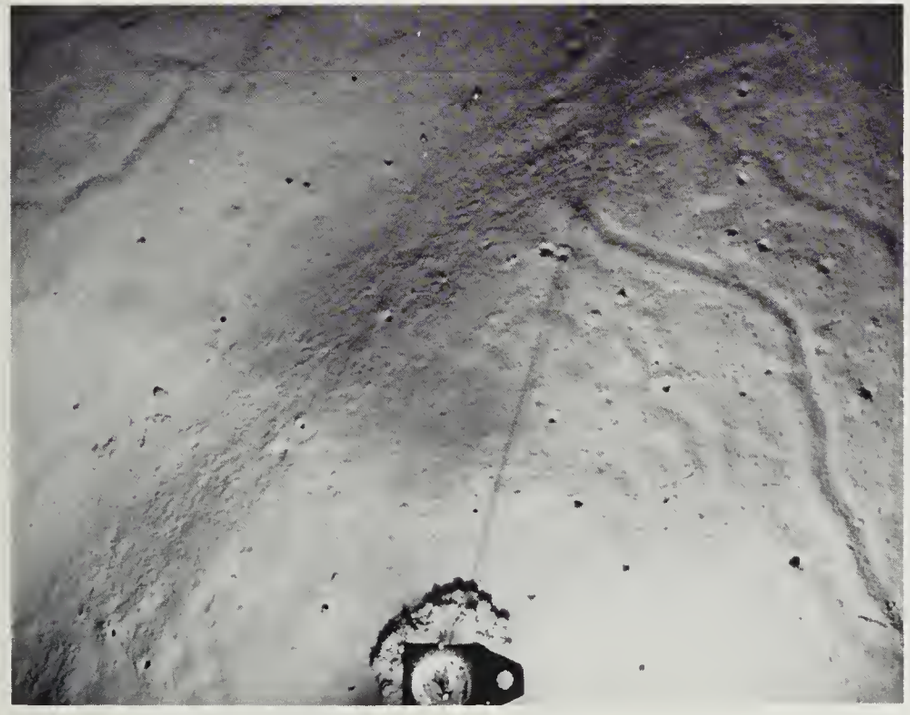

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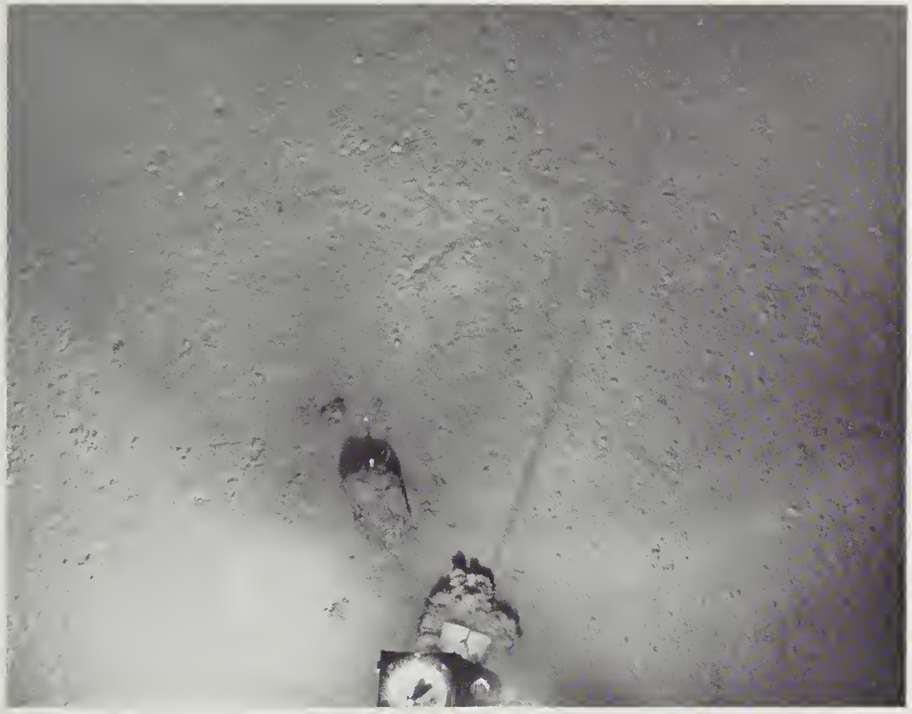
K179-11

K179-13

K179-14

K179-23



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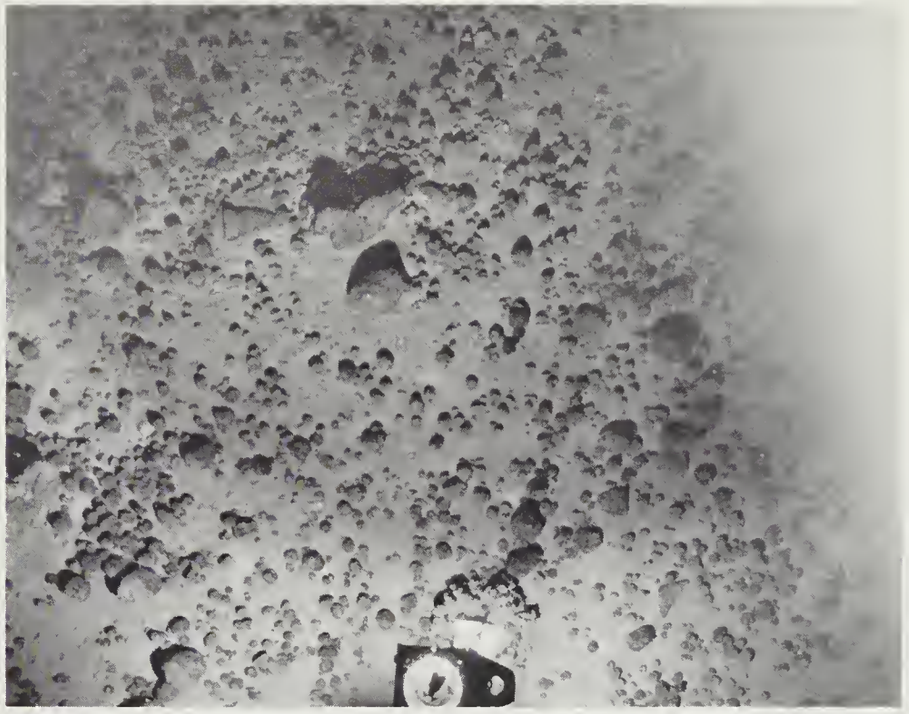

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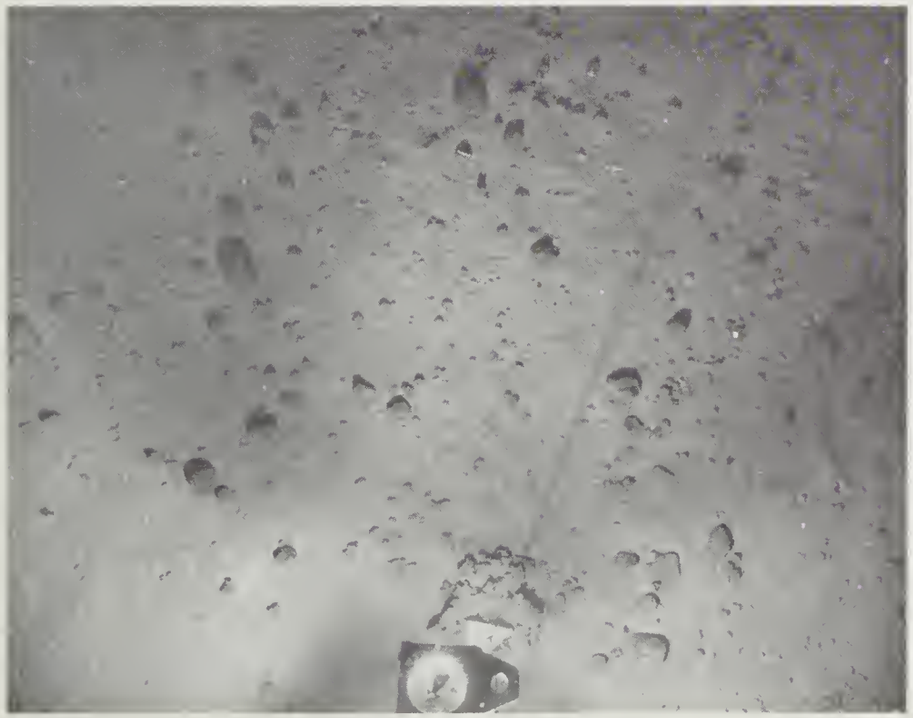

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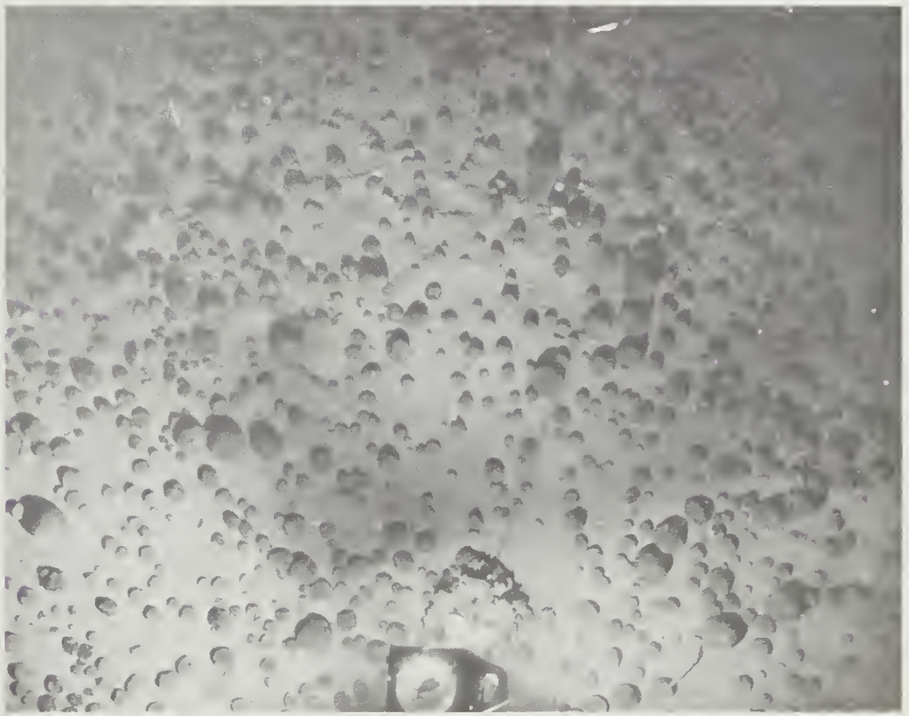

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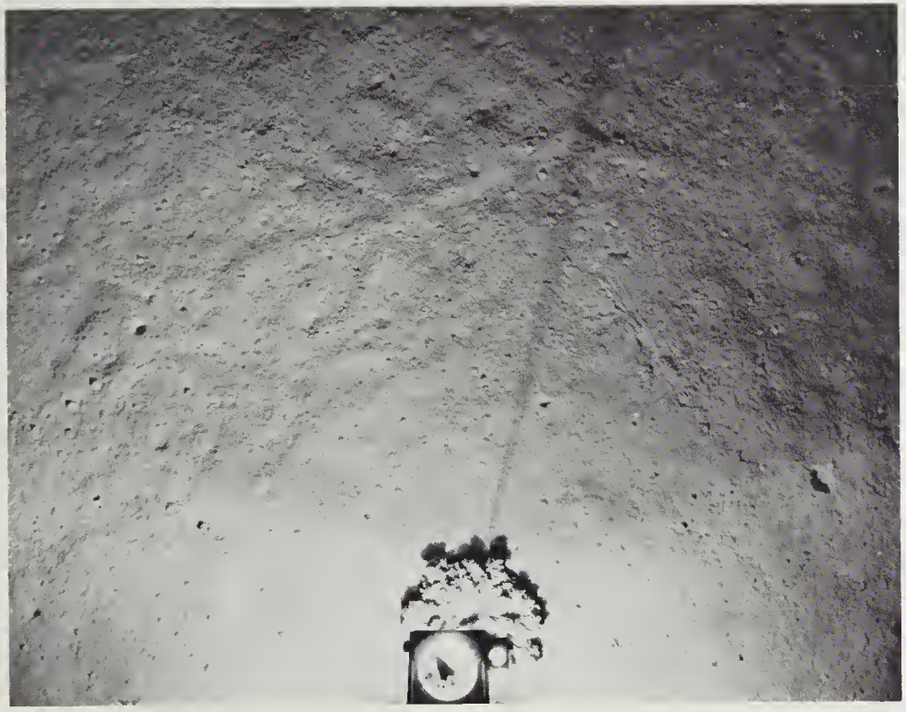

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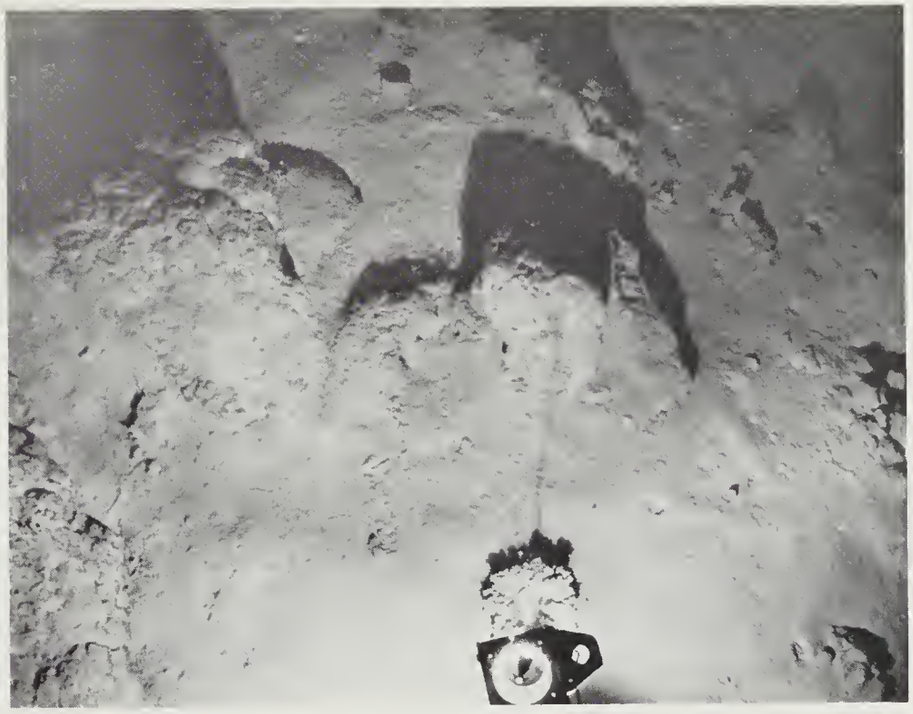

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K186-3

K186-5

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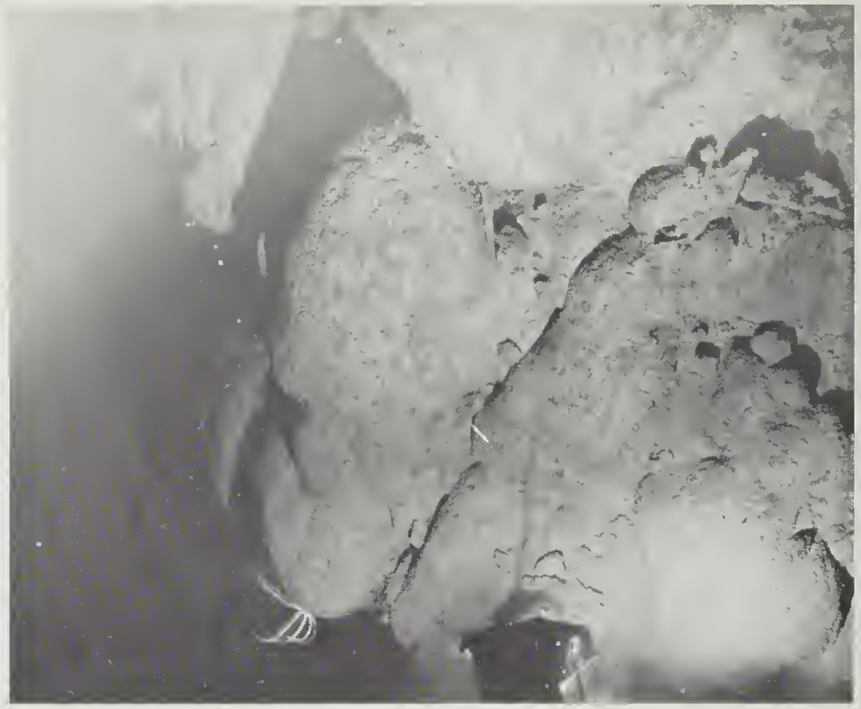

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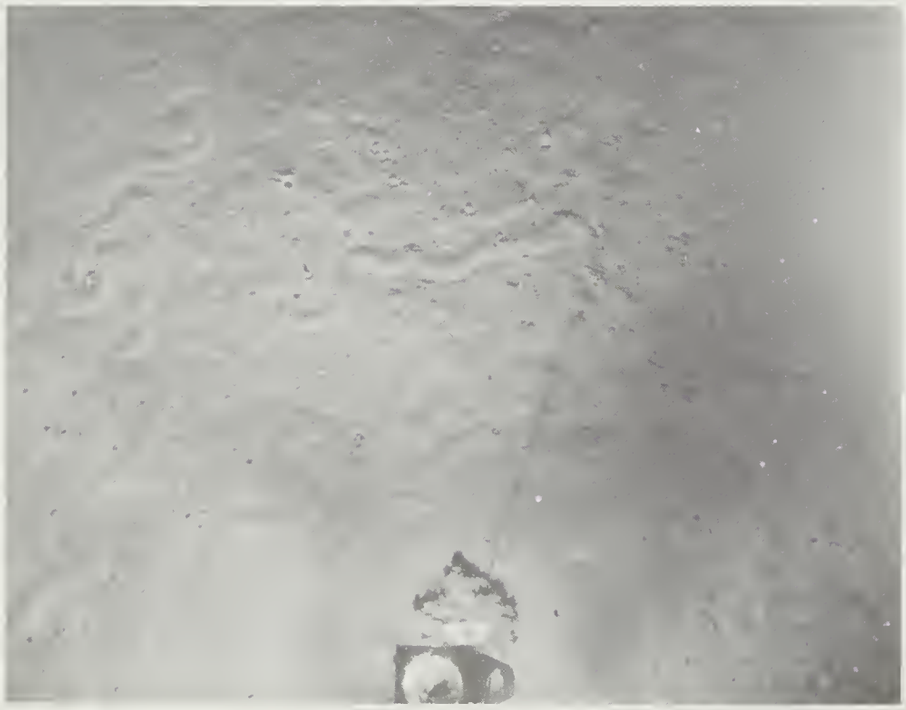

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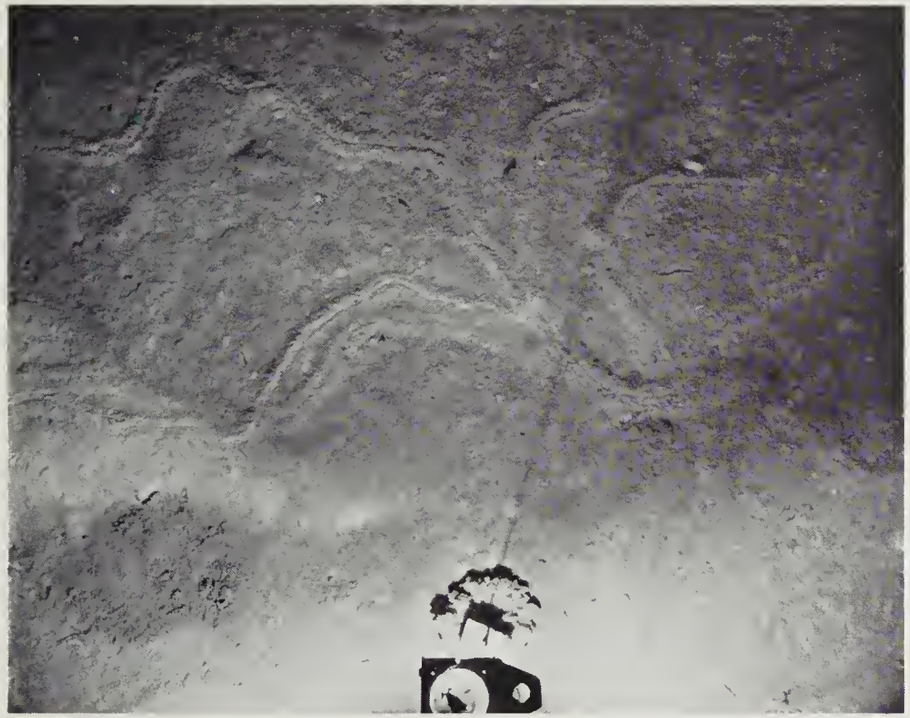

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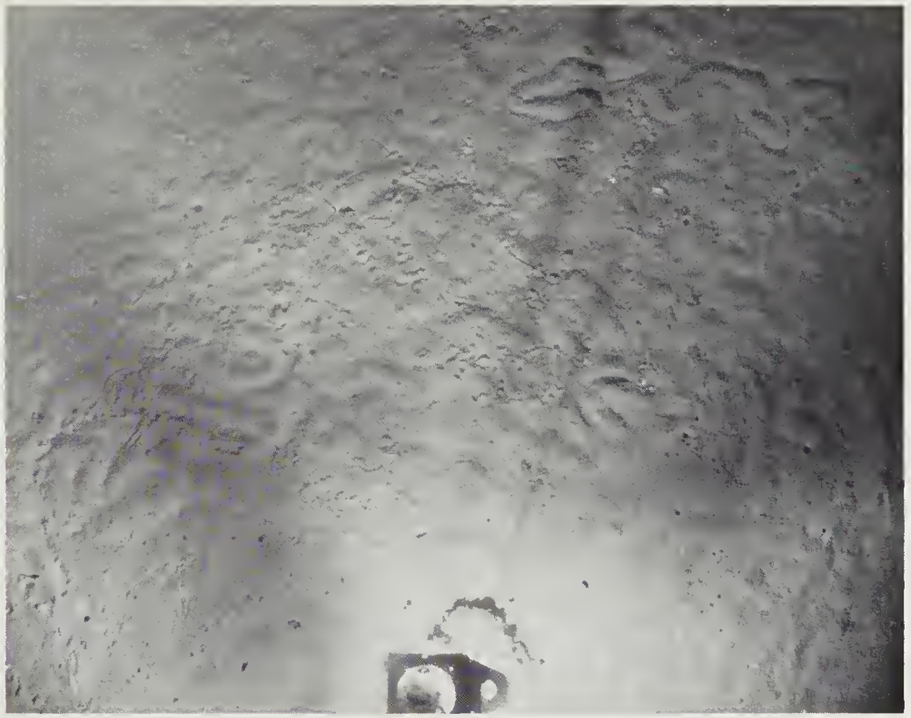

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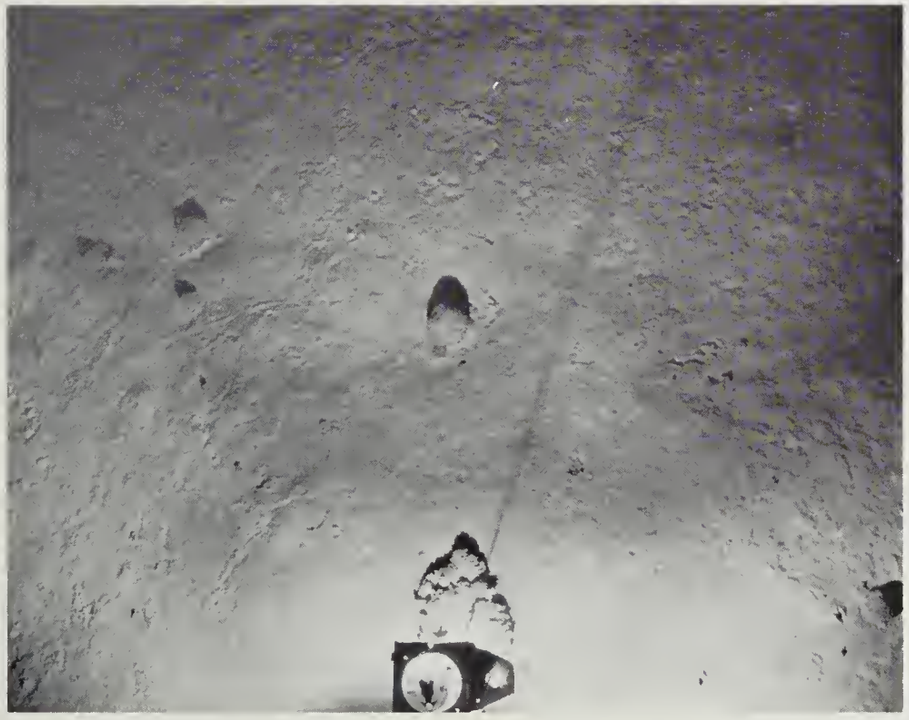

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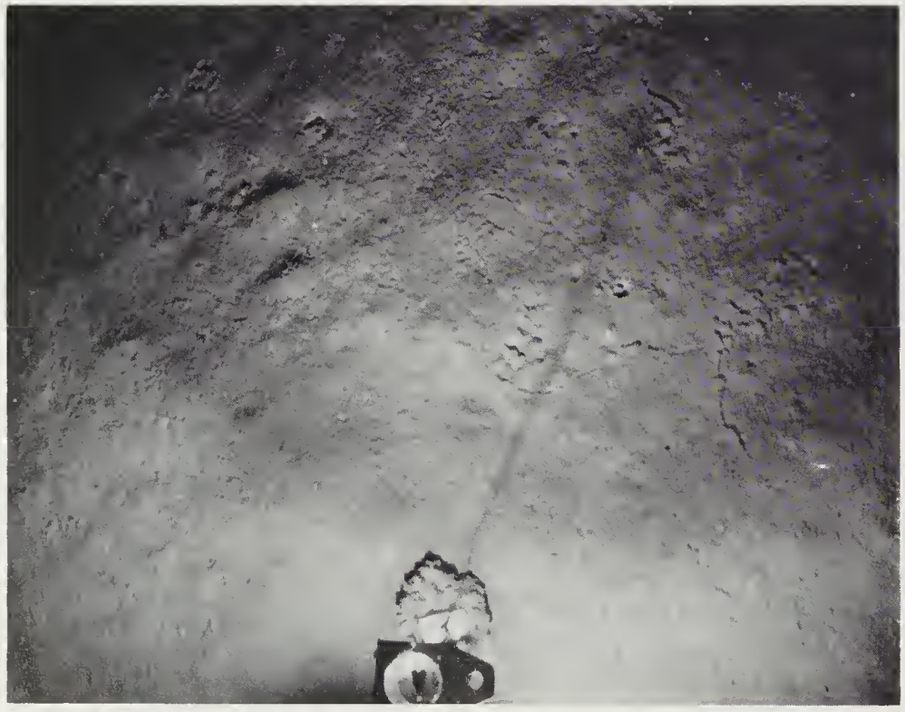

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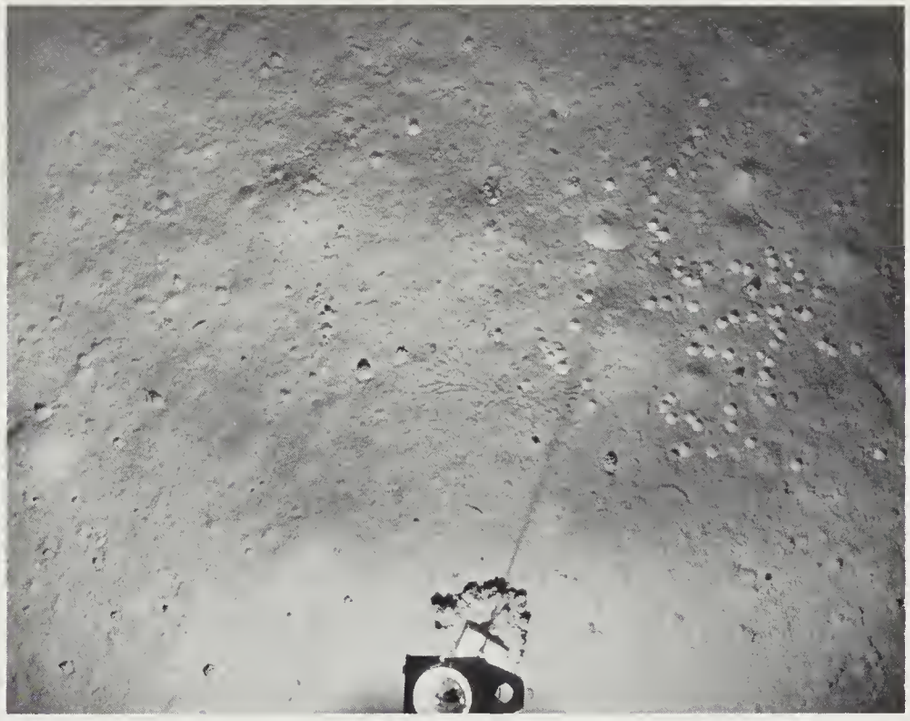

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K195-6

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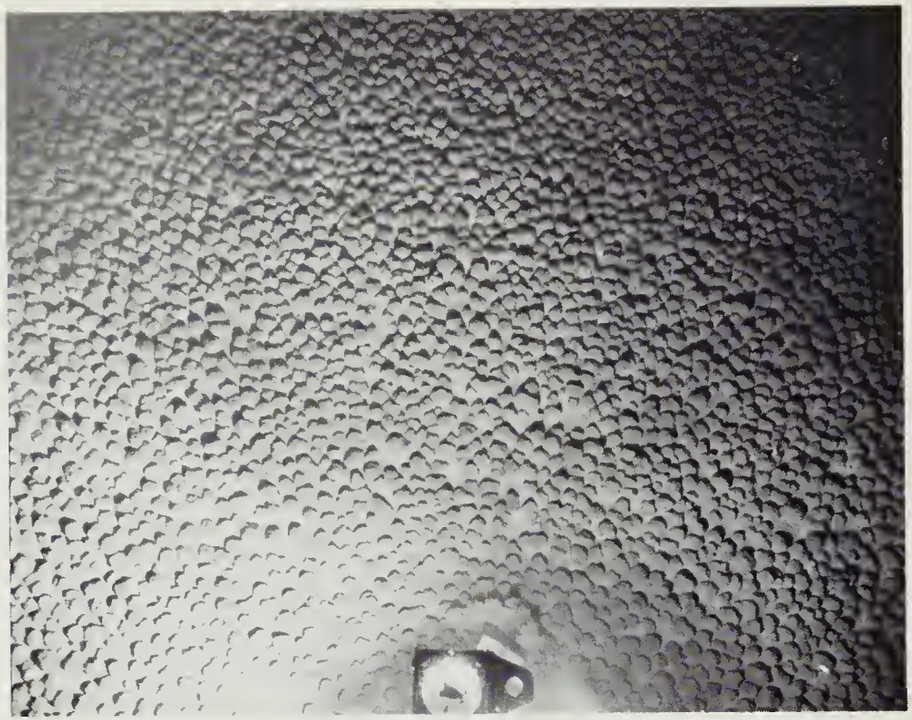

K196-5

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This technical report is a bottom camera and nephelometer data compilation collected during Cruise 16 of the research vessel Robert D. Conrad from August 10, 1972 to October 12, 1973. A brief description of the instrumentation and data reduction procedure is presented.

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